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PROCEEDINGS

OF THE

FOURTH ANNUAL MEETING

OF THE

INDIANA STATE MEDICAL SOCIETY,

HELD IN THE

CITY OF LAFAYETTE,

MAY, 1853.

INDIANAPOLIS:
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1853.

PROCEEDINGS

OF THE

FOURTH ANNUAL MEETING

OF THE

INDIANA STATE MEDICAL SOCIETY.

LAFAYETTE, Wednesday, May 18, 1853.

THE INDIANA STATE MEDICAL SOCIETY met in the Court Room, at 9 o'clock, A. M. On motion of Dr. Bobbs, Drs. Grimes and Bray were appointed to conduct the President to the chair; and after being seated, and calling the Society to order, Dr. J. H. Brower, the President, made a few appropriate remarks. Dr. C. C. Everts, the Assistant Secretary, being absent, on motion of Dr. Bobbs, Dr. Chas. Bowman, of New Albany, was appointed Assistant Secretary for the present session.

The Committee on Admissions then reported the following names as suitable persons to become members of this Society:

DR. R. B. JESSUP, Rising Sun, Ohio county.
" R. W. SHERROD, Millport, Washington county.
" J. G. McMECHAN, Crawfordsville.
" R. T. BROWN, "
" JOHN MOFFETT, Rushville.
" S. RITTER, Pleasant Garden, Putnam county.
" THOS. CHESTNUT, Lafayette.
" WM. W. MAYO, "

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Dr. J. B. McFarland, Lafayette.
" E. W. H. Beck, Delphi.
" A. W. Reagan, Mooresville, Morgan county.
" R. M. O'Ferrall, Lafayette.
" Horace Coleman, Logansport.
" O. G. Clark, Lafayette.
" Luther Jewett, "
" C. F. Wilstach, "
" S. W. Taylor, Battle Ground, Tippecanoe county.
" G. S. McClelland, Jefferson, Clinton county.
" C. Angell, Pittsburg, Carroll county.
" P. R. Johnson, Lafayette.
" J. W. Wilson, Rossville, Clinton county.
" E. T. Spotswood, Perrysville, Vermillion county.
" W. Jennings, Lafayette.
" A. Hurd, Oxford, Benton county.
" J. J. Barrett, Dayton, Tippecanoe county.
" W. T. Yeakel, Lafayette.
" Joseph Johnson, Dayton, Tippecanoe county.
" Marshall Sexton, Rushville.
" T. Isler, Lafayette.
" E. Deming, "
" Chas. Fishback, Shelbyville.
" D. H. Crouse, Dayton, Tippecanoe county.
" J. G. Heald, West Point, " "
" Isaac Smith. Lafayette.

All of whom were elected members. There were also present the following members:

Dr. J. H. Brower, Lawrenceburg.
" Saml. Reid, Salem.
" J. S. Bobbs, Indianapolis.
" Chas. Bowman, New Albany.
" Saml. Grimes, Delphi.
" M. J. Bray, Evansville.
" Wm. Lomax, Marion, Grant county.
" M. H. Harding, Lawrenceburg.
" J. L. Mothershead, Indianapolis.
" A. D. Gall, "

Dr. Geo. Sutton, Aurora.
" Fry, Crawfordsville.
" A. M. Hunt, Indianapolis.
" Ingersoll, Tippecanoe county.
" G. W. Mears, Indianapolis.
" J. Pennington, Milton, Wayne county.
" V. Kersey, " " "
" Johnson, Cambridge, " "
" Fahnestock, Carroll county.
" Link, Floyd county.
" Pressley, Lafayette.

The Executive Committee reported as follows:

The Executive Committee beg leave to present the following as the order of business at the present meeting:

1. Report of Committee on Admissions.
2. Reports of Officers of the Society.
3. Reports of Standing Committees.
4. Reports of Special Committees.
5. That a committee of five be appointed by the President to nominate officers for the Society for the ensuing year; also delegates to the "American Medical Association" for 1854.
6. That a committee of five be appointed to prepare Resolutions for the consideration of the Society.
7. That the committee appointed at the last meeting to report on the Medical History of Cholera in the State of Indiana, be continued.
8. That any paper to be read before the Society, under the appointment of the Executive Committee, be presented at such time as the Society may designate.
9. That any gentleman who may wish to make any communication to the Society, relating to the interests of the profession, have leave to do so.

The President appointed additions to the following committee:

On Finance.—Drs. Bobbs, McFarland, Brown, Reid, and Jessup.

Standing Committees were then called on for reports, and the Committee on Duration of Pregnancy were, at their own request, discharged; and Dr. Lomax requested to read any papers or facts in his possession to Committee on Publication.

Committee on Puerperal Fever were continued until next session.

Committee on Number, &c., of Medical Practioners in the State of Indiana, were continued till next session.

Dr. J. H. Brower, from Committee on Vital Statistics, read a highly interesting report, which was referred to Committee on Publication; and on motion, a Committee on Vital Statistics was appointed to report at next session, Dr. Brower, Chairman, with instruction to fill up the committee on his own nomination.

The President appointed the following committee:

On Resolutions.—Drs. Bray, Bowman, Lomax, Reid, and Bobbs.

On motion of Dr. Grimes, the President was requested to deliver his annual address on this evening at candle-light, and Drs. Wilstach, Jewett, and Chestnut were appointed a committee to procure a room suitable for the occasion.

On motion, the Society adjourned till 1½ o'clock, P. M.

Wednesday, 1½ o'clock, P. M.

Society met. The minutes of the morning were read and approved.

Dr. Hunt presented an able and interesting paper on Medical Chemistry, from Dr. Maclean, of New Albany; which was referred to the Committee on Publication.

Dr. Bobbs, from the Standing Committee on Surgery, made a report; which was referred to the committee on Publication.

The President appointed a committee to nominate officers for the next year, consisting of Drs. Sloan, Fry, Harding, Clark, and Lomax.

The pending amendment to Article 5th, of the Constitution, making the election of officers *viva voce* on the report of the nominating committee, was then adopted.

On motion of Dr. Mothershead, Rt. Rev. George Upfold,

M D. D. D. Bishop of **Indiana**, was elected an honorary member.

Dr. Sutton, from committee on Medical Topography in relasion to Milk Sickness, then read an able report, embodying perhaps more facts than have ever before been published, upon which much interesting discussion was had. On motion of Dr. Sutton, Dr. G. S. McClelland was added to the committee, and the committee continued—the present report was referred to the committee on Publication.

The Treasurer made the following report:

INDIANA STATE MEDICAL SOCIETY.

May, 1851, Received of late Treasurer, ...		$1 50
" " Received from Secretary and members,		75 50
Making, ...		$77 00
Aug. 6th, 1851, Paid Elder & Harkness, for printing Proceedings, ...	$50 82	
Aug. 29th, 1851, Paid postage on proceedings,	2 89	
		$53 71
Leaving in Treasurer's hands, ...		$23 29

J. L. MOTHERSHEAD, *Treasurer.*

INDIANA STATE MEDICAL SOCIETY.

May, 1852, Balance in hands of Treasurer,.....		$23 29
" " Received of Secretary and Members,		82 00
Making, ...		$105 29
Oct. 1852, Paid Anderson & Warren, for printing proceedings, ...	$75 00	
Oct. 1852, Paid postage on proceedings,...	3 04	
" " Paid Woodward for Express,	1 50	
		$79 54
Leaving balance in hands of the Treasurer, May 1st, 1853, ...		$25 75

J. L. MOTHERSHEAD, *Treasurer.*

Which was referred to the committee on Finance.

On motion, the Society adjourned until 8 o'clock, P. M.

WEDNESDAY, 8 o'CLOCK, P. M.

Society met; Dr. Kersey, Vice President, in the chair.

Dr. Brower, the President, proceeded to read the annual address, which was listened to with great attention by a large audience.

On motion of Dr. Bobbs, a copy was requested for publication.

On motion, the Society adjourned to meet to-morrow at 9 o'clock.

THURSDAY, 9 o'CLOCK, A. M.

Society met. Minutes were read and approved.

On motion, Dr. Brower was requested to furnish to the Publishing Committee, a schedule for Meteorological Observation.

The committtee on Finance made the following report:

The committee on Finance beg leave to report, that they have examined the report of the Treasurer, and find the same correct.

The committee would further report, that there has been received at the present session for admission fees, $46 00

Balance in the Treasury, ... 25 75

Making the present available means in the treasury, $71 75

It is estimated that there will be necessary for

printing the proceedings the present session, $100 00

Incidental expenses, ... 25 00

$125 00

Leaving a deficiency in the treasury of $53 25

which the committee would recommend to be provided by an assessment of one dollar upon each member of the Society. The committee would suggest that the Secretary forward a circular to such members of the society as have neglected to pay their assessments, requesting their attention to the same.

J. S. BOBBS,
J. B. McFARLAND,
SAMUEL REID,
R. B. JESSUP.

On motion of Dr. Mothershead, the Secretary was directed to furnish a full list of all the members of the Society, to be published with the proceedings of this session.

The Executive Committee reported the following committees to be appointed for the next year :

In addition to the report of yesterday, the Executive Committee would beg leave to recommend to the society, the appointment of committes to report on the following subjects :

1. *On the Causes, Pathology, and Treatment of Schirrus*—Drs. Bray, McClelland, and Moffat ;
2. *On the Causes, Pathology, and Treatment of non-malignant Tumours*—Drs. Sloan, W. Davidson, and Reid ;
3. *Diseases and Displacements of the Uterus*—Drs. Walker, Lomax, and Jewett ;
4. *Neuralgia*—Drs. Grimes, Link, and Jessup ;
5. *Scarlatina*—Drs. Kersey, Pennington, and Bullard ;
6. *Typhoid Diseases*—Drs. Mothershead, McFarland, and M. Sexton ;
7. *On the Progress of Medicine*—Drs. Brower, Clark, and Coleman ;
8. *On the Progress of Surgery*—Drs. Yeakle, Bobbs, and B. F. Mullen ;
9. *On the Progress of Chemistry*—Drs. Maclean, Brown, and Newcomer ;
10. *Obstetrics and Puerperal Fever*—Drs. Davidson, Bullard, and Mitchell ;
11. *On Medical Education*—Drs. Mears, Bray, and Deming ;
12. *On Medical Literature*—Drs. A. Clapp, Byford, and Reagan ;
13. *Practice of Medicine in Indiana*—Drs. N. Johnson, Dunlap, and Cornett ;
14. *Diseases peculiar to Emigrants*—Drs. Gall, Harding, and Chestnut ;
15. *Pathological indications of the Urine*—Drs. Brown, Mayo, and Spotswood ;
16. *On Erysipelas*—Drs. Sutton, Wilson, and Ritter ;
17. *Diseases of the Eye*—Drs. Fry, Parry, and Everts.

Which was adopted, and the committees filled as above.

Dr. Sutton, chairman of the committee on the Medical History of Cholera, made an able and interesting report ; which was laid on the table and made the order of the day for 2 o'clock P. M.

On motion, the Society adjourned until 2 o'clock, P. M.

THURSDAY, 2 o'CLOCK, P. M.

Society met.

Dr. Sloan, from the Nominating Committee, made the following report:

The Committee on Nominations, would beg leave to make the following report:

For President,

E. DEMING, M. D., Lafayette.

Vice Presidents,

DR. N. JOHNSON, Cambridge City;
" JAMES McCLELLAND, Jefferson, Clinton County;
" M. H. HARDING, Lawrenceburgh;
" SAMUEL REID, Salem.

Secretary,

DR. CHARLES BOWMAN, New Albany.

Assistant Secretary,

DR. R. B. JESSUP, Rising Sun.

Corresponding Secretary,

DR. T. BULLARD, Indianapolis.

Treasurer,

DR. J. L. MOTHERSHEAD, Indianapolis.

Librarian,

DR. H. LINK, Greenville.

Delegates to American Medical Association,

DR. C. F. WILSTACH, Lafayette;
" WM. H. BYFORD, Evansville;
" T. W. FRY, Crawfordsville;
" WM. COOPER, New Albany;
" M. H. HARDING, Lawrenceburgh;
" J. S. BOBBS, Indianapolis;
" MARSHALL SEXTON, Rushville;
" E. W. H. BECK, Delphi;
" A. M. HUNT, Indianapoils;
" SAMUEL REID, Salem;
" A. W. REAGAN, Mooresville;
" J. H. BROWER, Lawrenceburgh.

Contingent Delegates,

Dr. John Sloan, New Albany ;
" M. J. Bray, Evansville ;
" Luther Jewett, Lafayette ;
" J. Pennington, Milton ;
" C. Angell, Pittsburgh ;
" J. W. Wilson, Rossville ;
" West, Jackson County ;
" Moffatt, Rushville ;
" Yeakle, Lafayette ;
" Brown, Crawfordsville.

Committee on Admissions,

Dr. Pennington, Milton ;
" Casselberry, Evansville ;
" P. S. Shields, New Albany ;
" McFarland, Lafayette ;
" Lomax, Marion, Grant County.

JOHN SLOAN, *Chairman.*

All of whom were elected as reported.

The President then appointed the following standing committees for the next year:

Executive Committee.—Drs. Byford, Morgan, Florer, Walker, and Angell.

Committee on Publication.—Drs. Bobbs, Bowman, Hunt, Woodburn, and O'Farrel.

On Ethics.—Drs. Reid, Town, Casselberry, Wilstach, and Beck.

On Finance.—Drs. Bullard, W. A. Clapp, B. K. Davidson, Johnson, and Link.

The amendment to the By-Laws, proposed at the last meeting, locating the society at Indianapolis, was taken up and indefinitely postponed.

The Society then determined to accept the invitation of the Evansville Medical Society, to hold their next session in that city.

Dr. Mears offered the following resolution, which was adopted :

Resolved, That the thanks of this Association are due, and

are hereby presented to Dr. A. Clapp, of New Albany, for the able and comprehensive report, on the Indigenous Botany of Indiana, compiled at the request of the American Medical Association.

The following resolution was offered by Dr. Sloan, and laid over:

Resolved, That Section 4, of Article 3, of By-Laws, be so amended as to allow the Finance committee to assess a *pro rato* not exceeding $3 00 per annum.

On motion of Dr. Jewett, it was

Resolved, That the commmittee on Publication, be instructed to have bound in a suitable manner, 10 copies of the proceedings of all the sessions of this Society, to be kept with the books and papers, for future reference.

Dr. Brower offered the following resolution, which lies over till next session:

Resolved, That Article 3, of the Constitution, be so amended as to provide a standing committee on Vital Statistics.

Dr. Sutton offered the following resolution, which lies over till next session:

Resolved, That the regular annual meeting of this Society, shall be held at such place as the Society may adjourn to, on Tuesday preceding the 4th Monday in May of each year.

The report of the committee on Cholera was then taken up, and discussed at large by Drs. Harding, Sutton, Moffat, Lomax, Bobbs, Clark, Deming, Ritter, Mears, Reid, Yeakle, and others of the Society, when the report was referred to the committee on Publication, and the committee requested to continue the investigation and report at the next session.

Society adjourned to meet at 8 o'clock, P. M.

THURSDAY, 8 O'CLOCK, P. M.

Society met. The minutes were read and approved.

On motion of Dr. Kersey, it was

Resolved, That local and County Medical Societies, be requested to forward to this Society at its annual meetings, co-

pies of all reports, essays, &c., read to such associations, upon the subject of medicine and the collateral sciences, with a view of having all matters of practical importance embodied and printed with the transactions of this Society.

On motion of Dr. McFarland, it was

Resolved, That when reports are referred to the committee on Publication, without instructions, with regard to their being printed, that the committee be authorized to exercise their discretion upon that subject.

On motion of Dr. Hunt, it was

Resolved, That the Indiana State Medical Society, appoint Dr. J. H. Brower, and any other gentlemen who may wish to attend, delegates to the Ohio State Medical Society; and that Dr. Sloan be delegated to represent this society at the State Medical Society of Kentucky.

Dr. Kersey, one of the delegates to the American Medical Association, made an interesting report of his attendance at the late meeting.

On motion of Dr. Bullard, it was

Resolved, That the thanks of this Society are hereby tendered to Mr. Luce, the Editor of the Lafayette Daily Journal, for his attention in noticing the proceedings of the Society.

On motion of Dr. Lomax, the thanks of the Society was tendered to Dr. Sutton, for his very able and interesting report on the "Medical History of Cholera."

On motion of Dr. Kersey, it was

Resolved, That the thanks of the Society are hereby tendered to the medical profession in Lafayette, for their hospitable attentions to the members of the Society during the present session.

On motion, the Society adjourned to meet at Evansville, on the third Wednesday in May, 1854.

J. H. BROWER, *President.*

A. M. HUNT,
CHAS. BOWMAN, } *Secretaries.*

ADDRESS

OF THE

PRESIDENT, J. H. BROWER, M. D.,

BEFORE THE

INDIANA STATE MEDICAL SOCIETY, MAY 1853.

The return of the period of the annual assemblage of the State Medical Society, under circumstances so auspicious to its prospects of increasing usefulness, and the interest manifested by an attendance so large and intelligent, beyond what its early projectors could have anticipated, is a legitimate source of mutual congratulation.

Absorbed, as most practitioners of medicine necessarily are, by the daily drudgery of professional duties, no class of men have such infrequent opportunities for social re-union, and interchange of friendly intercourse; and none, perhaps, enjoy them with greater zest. The collision of intellect, the social greeting, the opportunity for testing mutually each others mental calibre, the strengthening the ties of brotherhood, which time and absence have served to weaken, the increased attachment to our noble profession, and the growing aspirations after its higher elevation and advancement, which are among the legitimate results of our annual convocations, are sufficient of themselves, as motives, to cherish and hail their return, as one among the bright spots in the dreary waste of daily toil, and should inspire every true physician, within the limits of the State, to aid by his counsel and presence, the design and objects of our association.

But these are not (pleasant and refreshing as they are,) the only, or the most important objects or results of our association. We owe much, not only to the Profession, whose honour and interests we are bound to cherish, and by every proper means to promote, but, placed as we are, by our peculiar position, as conservators of public health, to us especially belongs the duty to take cognizance of, and mature such measures as tend to the improvement of the Profession, and the

general sanitary condition of the community, and we are imperatively called upon, to consider seriously our present position, and to call up for reflection, the principles of conduct which will contribute most certainly to establish the Profession in future upon an honorable and enduring foundation in the present age. Eminently distinguished by its progressive tendency, there is a rapidly decreasing tendency to reliance upon prescription and authority. Every thing is presumed to be capable of improvement, and consequently is made the subject of careful scrutiny: its foundations are examined, its truth is tested: and if in any subject there exists, in fancy or reality, on the part of those connected with it, a disposition to oppose the operation of the spirit of progress—an inclination to cling too closely to the past—there will result, as a natural consequence, distrust and want of confidence. It is not surprising that there should be a special tendency of this kind, in regard to the public estimation of the state of medical knowledge, since the *seeming*, more than the *real* discordance, among authorities of any one time; the *apparent* opposition between the principles and modes of practice, prevalent in different ages, together with that uncertainty of much of our knowledge, as to the nature, causes, and treatment of disease, which the best informed among us are ready to admit, may with some reason induce the conviction that there can be no truth or certain knowledge, where so much disagreement and doubt exist, upon what *seem* to be essentials. But we believe that medicine will bear a comparison, in its history and in its present condition, not only as to the spirit of truth and humanity with which it has been pursued; but also as to the results which have been attained, with any branch of human enquiry, when the difficulties which surround its investigation, and the circumstances under which the comparison is made, are taken into consideration and duly weighed. If our art possesses solid foundations in nature, if it can be useful, if its consolations be necessary to the unfortunate sufferer, and if it be incumbent on public authorities to encourage and superintend our labors, too many means cannot be resorted to, in order to inspire with proper devotion and confidence, those who are destined to its exercise; to make them fully appreciate the dignity of their vocation, and excite in them a proper degree of enthusiasm; and it may be not amiss on this occasion, to enquire briefly into some of the principles and modes of reasoning upon which the claims of its votaries, for certainty and soundness are founded. It can not be cultivated with ardour, unless it is considered as consisting of sound and fixed principles founded upon a solid basis.

The cavillers against the solidity of medical science, have endeavored to justify their opinions on some of the following grounds: They maintain, that the principle of animal life is enveloped in so much mystery and darkness, as to elude the utmost force of enquiry; and that of consequence, we are left in hopeless ignorance of the subject on which we are called incessantly to operate, and the explanation of which ought to constitute the foundation of our knowledge. The secret springs of life, are in reality, concealed from observation, and we can form no precise idea, either of the power which animates our bodies, or of the means by which the influence of this power is exercised. This is indeed too evident from the slow progress hitherto made in the investigation of this principle, though men well qualified by their abilities, learning, and experience, have for more than 2000 years, been communicating to the world all they could add by means of just reasoning, to the mass of facts collected by diligent observation. The student of nature must own, we are yet greatly in the dark, in regard even to inert matter, and that we know but little of the properties and powers of the inanimate creation. But we have all this obscurity to perplex us in studying animated nature, with the addition of a vast deal more, arising from the unknown peculiarities of life, and the difficulties connected with the study of the laws and phenomena of the living organism. If an intimate knowledge of the nature of vitality were necessary to serve as the basis of the healing art, the art itself would fail in its essential and fundamental principle, and it is only necessary to enquire, whether it be absolutely necessary for the useful practice of Physic, to be enabled to penetrate into the essence of the vital powers, and to form a precise notion of their mode of operation upon the human body.

Man knows the essence of nothing: neither of matter which is always before his eyes, nor of those secret principles which actuate and determine all the phenomena of the universe. He is often occupied with the consideration of causes, which he flatters himself, he has discovered, and of others which he feels and laments his inability to ascertain: but *first causes*, are entirely withheld from his sight. He sees effects, or rather, he receives impressions; he is constantly observing new relations; he arranges them, in order to fix the recollection of them in his mind, to appreciate them better, and to draw from them whatever may contribute to his preservation, or afford him additional enjoyment: this is the sum and substance of human knowledge.

Is it necessary for the mariner to possess a scientific theory

of the winds, or a knowledge of their first causes, to enable him to obtain the full effect of their impulse, in traversing the ocean? or must he understand the cause of the tides, in order to avail himself of their aid in ascending a river? Must the brewer, the baker, and the tanner, understand the doctrines and hidden arcana of chemistry, on which their respective arts are founded, before they are enable to conduct them with practical success? Is it indispensable that the principles of vegetable life and nutrition should be extorted from nature and distinctly understood, before agriculture can be practiced with advantage, or made to yield sustenance to the animal world? This surely can not be asserted. It is allowed to man in his present state, to observe and arrange facts, and to make the best inductions he can from them: this is sufficient for him—he knows nothing of the nature of causation.

The phenomena of health and disease, the effects of aliments and remedies, all come under the cognizance of our senses, and we deduce rules from them, which are necessary for the practice of our art. We may therefore conclude, that this objection to the certainty of firmness of principles is not well founded. As the want of knowing causes is not peculiar to medical science, if the reproach of uncertainty and conjecture can thence be applied to it with any truth, the principles of almost all the other sciences are exposed to a similar charge. The same objection to the certainty of medical principles is sometimes presented in a different form, by the assertion that our knowledge of the nature and proximate causes of disease is so limited and obscure, as to render its treatment vague and unsatisfactory. The precise changes which the principle of vitality undergoes, in taking on a morbid disposition, are necessarily involved in all the obscurity which belongs to the vital principle in the state of health; but the causes and circumstances, which are obviously connected with the disease, and make up its history, are facts, positive and definite, and within the powers of observation; they may be discovered, and laid hold of by our senses; they may be communicated by faithful relation, and as they occasion certain definite phenomena in the animal economy, we accustom ourselves to recognize them and to draw from them inferences to guide our practice.

It has again been urged, that diseases undergo so many modifications from age, sex, temperament, climate, seasons, states of the atmosphere, modes of living, occupation, previous maladies, and are so much influenced by the state and passions of the mind, that it is impossible, amidst so various and conflicting causes, to assign to each its proportionate agency,

to attribute to each phenomenon its just value and natural connection, or to form a suitable plan of treatment, or to draw inferences so certain and conclusive as to be worthy of that dignity and importance which the healing art has always claimed.

Every reflecting physician, who understands and candidly appreciates the difficulties of his art, will be ready to acknowledge that there is some force in this objection: aware of these difficulties, he seeks to devise the best means to obviate and remove them. We are obliged, indeed continually, to admit exceptions to the general rules laid down to guide our conduct. The whole process by which an enlightened practitioner directs his treatment, the examination of the symptons, the comparison of the state of the disease with that of health, the determination of the nature of the disordered condition and of the probable course it will follow, together with the selection of the remedies indicated, implies knowledge, guided by reason and science; while conjecture implies ignorance, its suggestions having no better foundation than is afforded by that blind faith, which begins where reason ends. All legitimate medicine is a practical art, arising out of the two sciences of Pathology and Therapeutics; and in proportion as these sciences are perfected, will the rules of the art founded upon them be simplified, definite and certain. The practical skill of the physician appears chiefly to reside in an instinctive acuteness, improved by observation and experience. It requires a vivid conception to penetrate a disease at a single glance, and to seize on all its characters at once; the principal morbid phenomena may be reduced to a few, resulting from their combination and different degrees of intensity; the order of their occurrence, their relative degrees of force and importance in the animal economy, are sufficient to give rise to all the varieties of disease. A few signs produce the finest compositions of music, and a small number of sounds make up all the wonderful complications of language.

The objectors to the certainty of medical principles, have also contended that the nature and properties of substances employed as remedies, and their modes of operation upon living bodies, are but little understood, and that there is but little probability of clearing up this obscurity. In answer to this it may be maintained, that there appears to be no necessity, and indeed, but little advantage, in knowing the peculiar properties of cinchona, in order to observe its specific virtues in the cure of intermittents, and that it would probably avail us but little to ascertain the nature of antimony and mercury, so far as to explain in what manner the former executes vomiting and the later destroys the poison of syphilis. We gain a

knowledge of the powers of these remedies by observation and experience. We are no better informed of the nature of aliments, yet we well know that their employment is well followed by different effects, according to the circumstances under which those who take them are laboring, or the manner in which they are employed. From a long series of experiments, dietetic rules have been established, and are founded on a basis as solid as any in nature. With respect to the employment and action of remedies, the method of reasoning is the same. In all experimental sciences, therefore, man, in order to establish a degree of certainty in his researches, must merely observe facts, to place them in his mind, as nearly as possible in the same order and relation which they possess in nature, and draw from them such conclusions only, as they are found to warrant. The difficulties and fallacies of medical experience, have greatly increased the distrust of medical principles. The effect of a particular remedy, however well ascertained, may depend upon a multitude of causes, which the physician cannot possibly detect. The silent, yet incessant operation of that restoring power, the *vis medicatrix*, always tending to re-establish order in organized bodies; the changes produced in the progress of the disease, in the corporeal or mental condition of the patient, or in the external circumstances surrounding him; all these and many other things are liable to impose on the soundest and most guarded judgment, and to lead a physician to attribute his success to a series of combinations, the operation of which may be the opposite of what he imagines. Hence arise numerous sources of error, both for the art itself and for him who exercises it. The rule, "post hoc, ergo propter hoc," is undoubtedly a specimen of very bad reasoning in medicine; yet by this rule, fallacious as it is, many remedial agents have been brought into use, been arranged, and their mode of administration been reduced to a system. Nothing demands more enlightened understanding, more caution and discrimination, than the discovery of truths of this kind—for in enquiries after them, nothing is easier than to be led astray, even while pursuing the right path of investigation, and to cry "*Eureka;*" nothing more uncertain, than the process upon which our results are supposed to rest, at the very time when we think we have obtained such as are perfectly sure.

Hence arise inexhaustible sources of error, at every step of the physician's progress in the pursuit of truth. If any operation of the mind requires the possession and exercise of all its best faculties, it is unquestionably that of determining from the symptons of a disease, the best indications of a cure, es-

timating the powers and effects of remedies, and establishing rules for whatever emergencies may take place in future.—With all its imperfections and uncertainty, medicine can still justly claim a body of principles and doctrines, eminently entitled to confidence. If we could suppose it to be otherwise, and believe it to be incapable of being reduced to rules and principles, it would be unlike other arts; those who practice it would degenerate into a herd of visionaries, empirics, and impostors, unworthy of the respect and confidence of the community, or the protection of a wise government.

Nothing has contributed so much to weaken the confidence of society in the medical profession, as the fluctuating and transitory character of medical theories. The keenest shafts of wit and ridicule have been often levelled at this trait of everlasting inconstancy; but it seems to have been forgotten, that the science of medicine, like others founded on experience, is continually progressive, and therefore subject to perpetual change; so that without the suggestions of vanity, or an unwarrantable desire of innovation, we may sometimes be tempted to differ from our venerable predecessors. The origin and growth of theoretical opinions, sufficiently explain their fugitive character. Every step of experience approaches towards system, for by observing the apparant relations of things, as they are presented to our view, we are involuntarily led to the establishment of *principles*, which are nothing more than *assemblages of facts*. The application of these principles, to explain the phenomena around us, is a natural and favorite process of the human mind, and is so congenial and delightful as often not to allow us to wait the preparation necessary for its exact performance, and our eagerness impels us to anticipate the principles which yet remain to be discovered. The bewildering rays of fancy, are mistaken for the luminous beams of science; we are led astray by the fantastic delusion, and pursue it through all the fanciful and treacherous paths of hypothesis. Systems of speculation have thus risen up and fallen in quick succession, and even the modes of treating diseases can plead no exemption from this instability. But *an intimate acquaintance with the ancient writers, an attentive examination of different modes of practice, and an accurate and discriminating survey of the operations of nature*, will enable us to obviate many of these objections and to reconcile many apparent contradictions. With regard to theoretical opinions, founded, not simply upon facts themselves, but upon their proper and true arrangement and combination, it is of little importance how they disagree, provided practice is regulated by facts, and never forsakes the indications which

they furnish. The mathematical, the humoral, the chemical, and the spasmodic physicians, all agreed, to a considerable extent, in their practical inferences, and only employed their theories to connect their doctrines together. From the time of Hipprocates to the present day, intelligent practitioners have pursued what he so ably pointed out; practice has by no means changed to the degree which has been alleged, and similar means have generally been employed to bring about the same effects in every age, subject, indeed, to such modifications as the ever varying circumstances must have to the minds of intelligent observers, and the boundless improvements developed by the ardent researches of the pathologist and chemist. By the application of science and industry to the art of healing, much has already been done, and much more may be expected hereafter to be achieved—the ancient fabrics of physic have undergone a close examination, a great proportion has been condemned and demolished, much rubbish has been cleared away, that part of the pile alone which rests on the rock of truth and enlightened experience has withstood the force of every assailant, and defied the ravages of time. The foundations of our art are laid by the hand of nature herself, so deeply and firmly, in the instinctive desire of prolonging life and avoiding pain, that no effects are sufficient to subvert or destroy it. Its true representatives are those who have been governed by a desire of acquiring that knowledge, which will confer practical benefits upon society, of investigating the laws of disease and thus to prevent it, and raise the standard of health, more than to acquire reputation or wealth, by what is far easier and more lucrative—attention to the ordinary details of medical practice. From such men the treasures of knowledge, accumulated in years of faithful and unceasing labor, have descended to us as their rich inheritance, possessed of which we should feel safe, as to our future destiny, whatever may be the accidental and temporary alienation of portions of that public whom we serve; and whose confidence is so necessary for our usefulness. As we cannot exercise our benign vocation without that confidence, we are urged alike by philanthropy and by self interest, to adopt all legitimate means of securing and increasing it; and nothing is so likely to promote the object we have in view, as a readiness to examine, with a fair and candid spirit, all suggestions, *from whatever quarter they may come*, which may hold out a fair prospect of increasing our professional usefulness. "The character of our profession," says Dr. Ware, "has often suffered in the opinion of mankind, and confidence in the real value of our knowledge has been lessened, by the spirit which

has often been exhibited on this subject. There has sometimes been a want of liberality, a reluctance to admit, or even look at the evidence of any new truths, and especially new modes of treatment, which present themselves out of the beaten track of medical observation. It has even gone farther than this, and the same disposition has shown itself with regard to new things, which have come up in the Profession itself, especially if there happened to exist any of these petty jealousies, growing out of individual or local rivalry, which we so often suffer to blind and mislead us.

Now this disposition arises out of a spirit of caution, good and useful in itself, growing out of a large experience of the fact, that of new things, a great proportion are false, and that the evidence upon which most men rely, as sufficient for proof, especially on medical subjects, is totally inadequate. But still, new things are sometimes true, and we can only select these by an examination of all. And even were we capable of determining, as we sometimes are, a priori, without examination, that certain things are false, we cannot place the public in that position for observation which we occupy, or impart to them those elements for correct judgment which we possess. We must satisfy them that we are candid enquirers and impartial judges, free from the suspicion of professional prejudice or jealousy, if we would secure submission to our authority, or reliance upon our opinions; and while we allow much for the circumstances under which they judge, and much for *their* prejudices, let us be careful that we do not yield to our own. We must be content to sift the chaff for *their* satisfaction, even when we feel confident that there is not amongst it a single grain of wheat to reward our search. The relation which we maintain towards systems which we believe to be false, should be determined by a principle which is most important in its bearing, namely—that there is no form of error, from the careful observation of whose origin and progress, important inferences may not be drawn for the establishment of truth—'*fas est, et abhoste doceri;*' and while we watch its progress, we may avail ourselves of the fruits of what we regard as the errors of others, as we ought to do our own, and in the spirit of true Eclecticism, enrich ourselves, as it were, with their spoils."

Thus, in the calm and rational frame which should characterize the medical observer, free from that turbulent spirit of animosity towards rival sects which we are too prone to indulge, looking neither to the right nor the left, to discover what will be the effect upon our profession, considered as a *trade*—we shall be constantly adding to our stock of practical truth.

Be it ours to seek for light wherever it shall break in; to amass the treasures of Knowledge, even if we have to pick them up from the mire; to draw wisdom from the errors and follies of our rivals, without disdaining to profit by their success. "Then while other systems will pass away, *ours* will be permanent; nourished, indeed, to some extent, by the very elements which come from their decay, as the eternal oak flourishes and grows green for ages, from the decomposition of the transient vegetation, of which generations are springing up and perishing around it."

Gentlemen, fellows of the Indiana State Medical Society; to us, the representatives of our Profession throughout the State, belongs the duty and high obligation, to sustain its interests, and advance its humane mission; the path of honorable ambition is before us; in the pursuit of a more profound science, and a higher standard of medical excellence, guided by an enlightened humanity, we may securely rest in the assurance that our efforts will be correctly appreciated and acknowledged by the wise and the good; sustained in our arduous and most responsible labors, by the "*mens conscia recti*," and the reflection, that every member of the Profession, however humble his position, or pretensions, may add something to the sum of human happiness, and the alleviation of human suffering; and may our most ardent aspirations be, that we may—

"So live, that when the inexorable summons comes, to join
The innumerable caravan that moves
To that mysterious realm, where each shall take
His chamber in the silent halls of death;
Thou go not, like the quarry-slave, at night,
Scourged to his dungeon: but, sustained and soothed
By an unfaltering trust, approach thy grave,
Like one who wraps the drapery of his couch
About him, and lies down to pleasant dreams."

REPORT OF THE COMMITTEE

ON THE

PRACTICE OF MEDICINE.

Observations on the Topography, Climate, and Diseases of Eastern Indiana, by Dr. Harding.

The district of country forming the eastern boundry of the State of Indiana, and embracing a mean width of fifty miles, lies between 39° 25' and 40° 20' North Latitude. It is the most elevated portion of the State, having a general elevation above the level of the sea of about 800 feet, and about 400 feet above the Ohio River, throughout the extent that it forms the south-eastern boundry of the State. The streams falling into the Ohio, have more velocity than those falling into the Wabash and the minor Rivers of the State. Many of the tributaries of the Ohio, in consequence of their velocity and composition of the soil and strata through which they pass, have cut deep channels, leaving high and bluff banks on either side; their alluvium is often extensive, and subject to inundation at vairious seasons of the year. This liability is much increased in consequence of the elevated and uneven surface of the country bordering on the Ohio, thereby furrowing a rapid descent and accumulation of water from rain and other sources. The whole of eastern Indiana is underlaid by the blue fossilliferous limestone, abundantly rich in organic remains, mostly of marine origin, rendering it certain that the quarter part of the State, during some period of the earth's history must have formed the bed of the ocean. Clay is found to predominate in the soil of the counties of Jennings, Bartholomew, Decatur, Shelby, Johnson, Marion, and the more north-eastern tier of counties, while that of Jefferson, Switzerland, Dearborn, Ripley, Franklin, and parts of Rush and Decatur, being formed upon alternating strata of clay and limestone, necessarily partake chiefly of these two earths. I am indebted to my intelligent friend, Dr. V. Kersey, of Milton, Wayne county, Indiana, for the following topographical history of

Wayne, Union, Fayette, and Rush counties, which may be received as a very correct topographical history of eastern Indiana:

"Wayne, Henry, Union, Fayette, and Rush, adjoining counties, lie in the eastern part of the State, between 39° 30' and 40° 5' North Latitude, and have a general elevation above the sea, of about 800 feet; about 400 feet above the Ohio river, in a southern direction; and about 225 feet above the surface of Lake Michigan. The face of the country, though generally rather level, presents an agreeable diversity of plains, undulations, and somewhat rugged hills. These latter are rare, and generally found bordering the larger streams. The rolling lands constitute a large proportion of the district, lying between, and at some distance from the streams. The plains, or bottom lands, are extensive and of three distinct grades; the first are narrow, quite low, seamed with bayous, often submerged, and beset with pools of stagnant water; the second are extensive, more elevated, rarely inundated, and highly valued for cultivation; the third consists of extensive tracts of table lands, in several portions of the district quite out of reach of high water, yet resembling in appearance, in fertility and in geological structure, the strictly bottom lands. Such are the *walnut level* and some other similar tracts. Between the streams, especially the smaller ones, instead of rising into prominent ridges, it is common for the undulations to become less and less distinct, and finally to merge into extensive flats. These elevated flats, owing to their composition, which is largely argillaceous, are the wettest lands of the country. In the primitive State, while they were shaded by an unbroken forest, matted with undergrowth, crossed in every direction, and incessantly damed by the trunks of decaying trees, evaporation was obstructed, and drainage was out of the question; and it was even doubted whether such lands could be successfully cultivated. This whole district, with a trifling exception, (in Prairie Township, Henry county,) was once heavily timbered; but is now generally cleared and in cultivation, except what is reserved for timber; evaporation and drainage are thus greatly facilitated, and it is found that under proper culture, the wettest flats become profitable farming lands.

"The distribution of water in this portion of the State is remarkably uniform. There are no lakes, but few prominent ponds, and a larger number of basins, or sinks, containing water only a portion of the year. The country as a whole, has a gentle inclination to the south, and is drained by a succession of small streams. These mostly originate in the ex-

tensive upland flats of the adjoining counties on the North, constitute the numerous primary branches of Whitewater, Flatrock, and Blue river, and run nearly parallell in a Southern direction, affording ample water power, and adding greatly to the convenience and beauty of the country. The rolling and bottom lands are abundantly supplied with spring water; which is clear, cold, and pure, except that it holds in solution more or less lime, and in some locations iron and other minerals. Good water is readily obtained by digging wells, and on this account they are extremely common. Whitewater valley Canal runs through the district from North to South. The geology of this district is equally simple with its other features. It is one of those locations in which many of the groups of rock which usually constitute the solid crust of the globe are wanting. The drift is deposited directly on the Silurian system, without the intervention of the Devonian, Carboniferous, Secondary, and Tertiary formations. The animal remains of immensely distant ages are thus brought into juxtaposition; those of the protozoic and heterozoic, the acephalopodiferous and fragmentiferous periods are brought together. The blue fossiliferous limestone formation, which immediately underlies the drift almost throughout the district, is elevated into an anticlinal axis, very nearly corresponding with the State line east of this, from which it makes a gentle dip both east and west, and is overlaid within the two States by cliff rock, coal fields and other formations. The limestone is, however, in most places quite out of reach beneath an immense drift; which, owing to our remoteness from mountain ranges, is composed of detritus from almost every species of rock, both crystalline and stratified, and of every grade of fineness from unpalpable dust to the ponderous bowlder. It has already been stated that the soil of the elevated flats is largely argillaceous; there is however a mixture of sand and gravel, in which lime is a predominent ingredient; and it is more or less enriched by animal and vegetable matters. In the rolling lands there is generally less clay, more sand, and in many places extensive beds of gravel and sand, a few feet below the surface. This latter is the common characteristic of the bottom lands, which usually consist of a rich alluvial and largely vegetable soil, deposited on irregular strata of gravel and sand, hence these lands soon dry by percolation.

"The district in question contains about 1,500 square miles, and a population of 90,000, or 60 to the square mile. These are Anglo-Saxon, except a few hundred negroes and mulattoes, and mostly live a country life; large towns being rare, while

villages and small towns are numerous, and mostly situated on or very near the streams.

"The winter of 1851–2 was remarkable for low temperature, and abundance of snow. The following spring was mostly rather cool, with frequent light showers, and a great many cloudy days. On the 20th and 21st of April a severe and destructive frost. The fore part of summer was mostly warm and showery, the latter part hot and dry. August was remarkably cool, and without rain till the 20th; Vegetation suffered greatly from the drought. From the 20th of August the weather was remarkably fine, and light showers were frequent till the 10th of November, when a slight snow occurred, and rain and snow were frequent throughout the month, which was unusually mild for the season. In December, rain was more abundant than for several years. On the 23d it was heavy and continued, beginning from the south-east and closing from the south-west, with a temperature of 63 degrees, at 10 P. M. The streams were raised to the highest stage. On the 27th a very similar rain occurred from the same quarter, and raised the streams to nearly the same height. During the summer electrical disturbance was unusually rare, cumulus clouds remarkably abundant, and frost occurred during every month of the year. The previous summer, thunder and lightning were very common, and sometimes terrific. For more than two years, heavy and protracted rains rarely occurred. The streams were at no time high; the earth was scarcely thoroughly saturated, or the ponds and bayous filled, till the great rains at the close of last year.

"Some efforts have been used to ascertain the prevalence of disease in this portion of the State, from its first settlement by the whites; and it appears that periodical fever has been more or less common every year since 1806. And that protracted diarrhœa and cholera infantum were common, and often fatal diseases among children, especially during the earlier portions of this period. The Indians represented to the early white settlers that they had been able to raise but few children, on account of the general prevalence of these diseases during the hot months.

"The graver forms of periodical fever were scarcely known, and the country was considered quite healthy, till about the year 1819, when both intermittent and remittent fevers became quite prevalent, and decidedly malignant. This state of things continued during the summer and autumn for three or four years. Within this period a considerable portion of the adult male inhabitants lost their lives, while women and children suffered less. The most fatal forms were billious remit-

tent, of the gastric variety, often attended with distinct yellowness of skin, thus closely resembling yellow fever. And another form (perhaps congestive intermittent) in which an algid condition usually supervened at an early period, and which at the time, went under the popular name of cold plague. After this the health was generally better till the cholera epedemic of 1832, which prevailed to a considerable extent in the district in question, and imparted a modifying influence to the endemic diseases, which was felt and observed for some years. From 1836 to 1839 inclusive, fevers again prevailed to a great extent, and were quite fatal. Intermittents were very common, the congestive variety frequently occurred, and often proved fatal. Billious remittent was quite prevalent, was frequently associated with an irritable condition of the stomach and bowels, had a typhoid tendency, and was often unmanageable. And besides these, typhoid fever prevailed at the same time as an epidemic, in several neighborhoods. It seemed indeed in many instances to be propagated by contagion. The cases were generally protracted to a period of from three to six weeks, and a large number of vigorous young persons of both sexes died, but it is believed a considerable majority were males. This disease was confined to no season, but was more prevalent, and more malignant, in cold than warm weather.

"Fevers were quite prevalent again in 1843–4–5, but especially in 1844. This epidemic was less malignant than the preceding; a large proportion of the cases were of the intermittent form and free from dangerous complication. Where the remittent form occurred it was mostly mild, and yielded readily to treatment. Typhoid fever had a very limited prevalence during this period, and was free from epidemic and contagious characteristics. From 1846 to this time, fevers have been on the decline. No epidemic has occurred within the knowledge of the writer. The number of attacks has been greatly reduced, and the cases, of whatever type, have been quite amenable to treatment. So that a fatal case of fever, from being a very common, has become a very rare occurrence.

Diarrhœa and cholera infantum, though strictly epidemic here, are believed to be on the decline. We have cases of this kind during the hot months of every year, but they are becoming more rare, and less fatal. And they have not prevailed in the form of an epidemic for some years.

"Sporadic cases of dysentery are met with every summer, and this disease has repeatedly occurred as an epidemic in several portions of the district in question. The last occur-

rence of this kind under the immediate notice of the writer, took place during the summer and autumn of 1846. No class of persons was exempt from attacks; but among children and infants the mortality was large. Among this class of patients, after a few days of suffering from the usual symptons of acute dysentery, the disease frequently assumed new features; great heat, tumefaction, and tenderness of the abdomen; intense thirst; simultaneous vometing and purging, with almost spasmodic urgency; the evacuations losing the characters distinctive of dysentery, and becoming more serous and profuse, resembled flesh washings; and not unfrequently cerebral symptons, amounting to convulsions, preceded a fatal termination of the disease.

"Phthisis, pneumonia, and bronchitis, are believed to be on the increase. Whether this is due, in any degree, to improved modes of living, such as tight houses, the general use of stoves, a less constant exercise in open air, &c., it would be interesting to know.

"Hooping cough prevailed very generally in this village and vicinity during the past year, and probably afforded a predisposition to pneumonia, as this disease has occurred during the winter with unusual frequency, and in a number of persons who suffered from the former affection in the summer.

"Inflamation of the tonsils, fauces, and diseases of the face and forehead, with a good deal of constitutional disturbance, often ending in suppuration, with rather protracted purulent and bloody discharges, has, for some weeks been so prevalent, as perhaps to justify the rank of an epedemic. It has, so far as is known, yielded pretty readily to saline cathartics, cooling diaphoretics, external applications of iodine, and a solution of nitrate of silver to the affected surface when within reach.

"Scarlet fever has not occurred here as an epidemic since the winter of 1846–7. It was then very common, and principally of the anginose variety; some cases were simple, and perhaps some malignant. In the treatment of this disease, I have mostly withheld mercurials from theoretical considerations; neither has the lancet been used; vessication, and other means capable of destroying the integrity of the skin, have been withheld. Emetics, aperients, sedatives, frequent sponging, with cold or tepid water according to the temperature and feelings of the patient; and strict attention to the throat, using among other less powerful remedies a solution of nitrate of silver internally, and compound iodine ointment externally, constitutes a brief outline of the treatment; with the results of which I have some reason to be satisfied.

"It appears, from limited data, that negroes and mulattoes

are to a great extent exempt from periodical fevers; but correspondingly more liable than whites, to scrofula, phthisis, and acute affections of the lungs and heart. Typhoid fever attacked nearly every member of a large isolated family of negroes, and was fatal in several cases. The disease was, at the time, prevailing among the whites of the neighborhood, but no other family suffered so severely.

"Periodical fevers, and bowel affections are considered to prevail more constantly immediately on the streams, and specially on ponds of stagnant water; while the higher bottoms are about equal, in this respect, with the rolling lands, and more exempt than the upland flats. During some seasons the latter locations have been visited by these affections in a most malignant form; and associated at the same time with a well marked epidemic of typhoid fever. This occurred in one remarkable instance, about the time a new settlement was formed, a large portion of the land having been just cleared and subjected to cultivation. There is very little uniformity in the distribution of these diseases except during the healthiest years; when first attacks are rare, and mostly confined to the immediate neighborhood of stagnant water. During epidemics this is not the case, and in more than one instance such locations have been measurably exempt, while the inhabitants of more elevated and rolling lands have suffered severely.—The last epidemic of these fevers in this particular location, occurred about the time of the completion of the Whitewater Valley Canal, and was attributed by many to the extensive excavations of this work. But the disease prevailed at the same time, in neighborhoods too remote to be affected by local causes of this nature.

"Some peculiarity of season is usually assigned as the cause of these epidemic visitations—but seasons alike in most essential particulars, so far as our rude observtions enable us to determine, sometimes present a strong contrast, both in the amount, and character, of prevailing disease. Many physicians maintain that these diseases are the legitimate effect of *marsh miasma*, a specific poison, generated by the decomposition of vegetable matter, under particular circumstances of heat and moisture. But this process is going forward under the given circumstances, on a stupendous scale, in many portions of this district, during the hot months of almost every year. This, the cryptogamic, the anamalcular, and other theories, when embraced as true, and rested in as satisfactory, have a powerful tendency to paralyse the spirit of research, and divert the mind from an unbiased observation of the phenomena of nature, without which, her laws are seldom reveal-

ed. Similar in effect is the somewhat prevalent sentiment that the causes of disease are mysterious, inscrutable, and past finding out."

Dr. J. C. Burt, of Vernon, Jennings county, says: "that county is underlaid by the grey, or cliff limestone formation, to which all its external features have their natural correspondent. So with Jefferson, Scott, a part of Ripley, and the contiguous counties. Some ten miles in a north-westardly direction, however, the surface of the country suddenly changes its appearance; the limestone disappears under a mass of sand and gravel, interspersed with bowlders of considerable size, overlaid with a soil of rich loam. This region presents a plane or slightly undulating surface; the streams are very broad, and run with a sluggish current; their low and sandy banks in time of rain, are soon overflowed, and the bottom lands on either side are inundated, and all those surface features present themselves, which are peculiar to the drift formation as it is found in the west. I am unable to give you an accurate report of the comparative prevalence of the diseases of these two regions, drawn from a thorough observation of the facts in this connexion. My own observation has been too slight and imperfect to enable me to arrive at such a result; but I can say this, that in the same proportion as the apparent sources of malaria exist in this region, so do those diseases prevail that are of reputed malarious origin. There is perhaps a quadruple of cases of remittent and intermittent fever, and their comparative malignancy and mortality are still greater. Intermittents hardly ever prove fatal in the limestone region, while in the other very many are carried off by what they call congestive chills, which seems to be a form of intermittents, in which the cold stage of paroxysm, so powerfully depresses the vital forces, that reaction is never established. In one part of Jackson county this form of intermittent was so prevalent and fatal last autumn, that it was regarded as hardly less fatal, or dreadful in its results than a visitation of epidemic cholera. This form of disease never prevails in the limestone region, so far as I have observed. I have met with cases of it here, but have always found on enquiry, that they had contracted the disease in the adjacent malarious region. On comparing the two different geological formations, in reference to these diseases, which have for their cause atmospheric vicissitudes, and the impression of cold on the animal economy, quite a different result is presented—all such diseases are alike common to both. The diseases within my own practice of any interest during the past year, were Erysipelas, Cholera, and Typhoid Fever."

He says, "that they have not been visited by any epidemic of marked character, or wide spread influence for the last two years. The Dysentary that prevailed here in 1849, was modified by the typhoid predisposition then existing in this portion of the State. We have at the present time, (January 12, 1853,) a predisposition to epidemic Erysipelas. Slight injuries are often followed by severe and extensive erysipelatous inflamation, frequently involving the cutaneous and cellular tissues."

The diseases endemic to this portion of the State are such as are common to the Mississippi valley, modified in form and intensity, by the varying local condition of particular districts. The diseases of our climate may with some propriety be divided in two great classes, those peculiar to summer and winter. The chylopoetic vicera are most likely to be excited to diseased action, from numerous morbific sources, during the hot months of summer and early autumn, while diseases affecting the respiratory organs, the serous, and fibrous tissues, predominate in winter and early spring. Thus our diseases at different seasons of the year, simulate, more or less closely, those of high and low latitudes, or countries widely remote from each other. The diseases of spring are usually a combination of those peculiar to winter and summer, while those of autumn partake somewhat of the character of those of the preceding summer, and if they continue late are a correct index to those of the coming winter. Remittent and Intermittent Fever, Cholera Infantum, Cholera Morbus, Dysentery, Gastritis, Enteritis, Hepatitis, and kindred affections, make up a part of the long catalogue of diseases incident to summer and autumn.—The disease of the greatest moment, and one that has been the subject of more research and investigation than any other of our endemic diseases, is fever, in its various types, and protean manifestations. Although within the last few years its claim to distinctive importance has been largely shared by dysentery and kindred diseases, affecting the alimentary canal. Intermittent fever is among the most frequent and constant of our endemic diseases.

INTERMITTENT FEVER.

After making some remarks as to the uncertainty of the cause of intermittent fever, Dr. Harding gives us the result of his own and his partner, Dr. Tate's. experience in the treatment of it, in his own language, as follows:

The plan of treatment found the most successful, adopted by myself and partner for the last three years, is based upon the observation of the almost invariable tendency of intermittents to relapse at the septenary periods; the 7th, 14th,

and 21st days. Therefore, when called upon to prescribe for a relapsed intermittent, on inquiry I invariably find that it is seven, fourteen, or twenty-one days since the last attack.

Unless I should think it necessary to cleanse the stomach and bowels, during the apyrexial periods, by emetics and cathartics, the following recipe has rarely disappointed my confident expectations of radically curing the disease in three or four weeks, rarely seeing a relapse take place, after it has been intercepted through three or four successive septenary periods:

℞—Quinae Sulphatis, gr. xx.
Pilu. Mass. Hydrarg. gr. v.
Olei Pip. Nigae, gtt. xx.
M. and divide into pills No. 10.

Two to be given every two hours, commencing 15 hours before the expected paroxysm; and repeated one or two days in advance of the septenary period, for three or four successive periods if it relapse on the seventh day; and so of the fourteenth and twenty-first. And this result is the more certainly realized, not alone from the increased efficacy of Quinine, as a therapeutic agent, when given in this manner; but from the improved tone of the general system and the prevention of that derangement of the secretory organs, that is so certainly the result of repeated paroxysms of fever, and high arterial excitement; increasing thereby in a marked degree, the ability of the system to throw off the effects of habit, so remarkably impressed upon it by a long continued ague. We noticed recently in a Western Journal, an allusion to some experiments that had been made, going to show that the chloride of Sodium possessed some controlling influence over intermittent fever.—From these suggestions we were led to make a few trials of its effects in this disease; and transcribe a few cases, from notes made of them during the progress of the treatment, allowing the Profession to draw their own deductions.

Case 1st—age 27. Mr. W. B. (from Dr. Tate's report,) had been sick during four weeks of typhoid fever, from the middle of July to the latter part of August, considerably reduced; some weeks after his recovery was attacked with Intermittent fever of Quotidian type; had three paroxysms with distinct intermissions. The chill occurred at 10 o'clock A. M. Patient treated as follows:

℞—Sodii Chloridi, ℥ss.
Aquae, ℥ii. M.

And given in drachm doses every hour, commencing ear-

ly in the morning, had taken about one fourth of the mixture when the chill came on, which was very severe.

On the subsidence of the fever, he commenced the medicine again; he had taken about one-half of the mixture, up to the time of the occurrence of the chill on the next day, which was slight and attended with but little fever. Took the remainder of the mixture on the succeeding day, but had no further trouble of the disease. The remedy in this case exhibited a controlling influence. Although the apyrexial period was short and but one-fourth of the mixture given, the severity of the disease was mitigated and entirely arrested, when a proper amount had been taken. This patient lived on the bank of a creek in a miasmatic region.

Case 2d. R., (age 20,) lives near a canal; his family and himself have had repeated attacks of intermittent; has recently had cholera morbus, succeeded by diarrhea; had two paroxysms of Intermittent of Quotidian type, before I prescribed for him, as follows:

℞—Sodii Chloridi, ℥i.
Aquæ, ℥ii.
Zingiberis Tinc., ℥ss. M.

And given in half table spoonfull, every hour, commencing early in the morning; took one-half the mixture and had a slight chill; on the succeeding day had a slight chilly sensation which soon passed off with no further paroxysm at this time. He now improved in health and general appearance.

About the 12th or 14th day from his previous attack, he had a return of intermittent fever, which was treated as before and with similar results. This case, as also the preceding, was unfavorable for testing the efficacy of the remedy, as they were of the quotidian type; and the paroxysm occurring early in the day, did not give us time to administer a full dose of the medicine. We sometimes fail in arresting intermittents of this type, for the same reason, when Quinine is prescribed.

Case 3d. C. M., (age 10,) has had repeated attacks of Intermittent fever; arrested it with quinine, but it would return again within a short period. He lives in a decided miasmatic region. I was called August 28th to see him for convulsions, induced by a paroxysm of intermittent fever. He was free from fever, and was ordered as follows:

℞—Sodii Chloridi, ℥ss.
Aquæ, ℥ii.
Zing. Tinc., ℥ss. M.

He had taken but little of the medicine when he had a slight chill. The 30th, had taken one-half the mixture, had

a harder chill than the day preceding. 31st, took the remaining portion of the mixture and had no further paroxysms.

September 11th. The same case had return of intermittent fever and was prescribed for as follows:

℞—Sodii Chloridi, ℥ss.
Aquæ, ℥ii.
Zing. Tinc., ℥ii. M.

This was all taken during the day; had no chill or fever on the 12th, and had no more of the disease.

Case 4th. B. M., (age 8,) brother of Case 3d, has intermittent of Quotidian type. The paroxysms were mitigated after the first few doses, and by the third day, at which time one ounce of the Sodium had been taken, they were arrested. He also had a return of the disease about the 12th or 14th day; which was immediately arrested by one-half ounce of the Chloride of Sodium, during one day.

Case 5th. J. M. (age 22,) has been living in a miasmatic region, has had three paroxysms of intermittent fever of the tertian type, and was prescribed for as follows:

℞—Sodii Chloridi, ℥vi.
Aquæ, ℥ii.
Zing. Tinc., ℥ii. M.

To be taken at intervals during the apyrexial day. There was no return of the disease after taking the mixture.

We noticed the result of this remedy in six accidental cases, the result of which corresponds with those that we have given. One case resisted a pretty thorough trial of the salt, but was arrested, readily by Quinine.

The foregoing cases were not in any way selected; but we prescribed the Sodium for every case that came under our treatment, in intermittents, for a period of two weeks; provided it was so situated as to be under our observation. Since this time we have made no further experiments. We turned from those experiments, satisfied that Chloride of Sodium, when given in doses, to adults, from half an ounce to an ounce, possesses some power in controlling or arresting the paroxysm of intermittent fever, although not to the extent of Quinine. Yet in some cases from not only its harmless, but healthful action on the system, it may be preferred.

There is another consideration; we all know that quinine is a most expensive medicine, and to poor families, living in miasmatic regions, this remedy becomes a heavy tax, often insupportable, which discovered, they resigned themselves to that inexorable enemy to their health, who ere long leaves

upon their person the unmistakable evidence of his sovreignty, in the doughy or icteric countenance, protuberant abdomen, shivelled or dropsical extremities, which may be only the harbinger of more serious organic disease.

In view of the expense attendant on the use of Quinine, the cheapness and availability of the Chloride of Sodium, it becomes a consideration worthy the attention of the Profession, to test the efficacy of this agent, and if of any utility whatever, to place such imformation before the Profession; and particularly in the hands of those who are doubly affected by poverty and disease.

In regard to the manner and the amount of the Sodium prescribed, ℥ss. seemed sufficient in most cases; yet an ℥i. was sometimes given in the course of 48 hours. In children we graduate the amount in proportion to the age. We combined Tinc. of Ginger, and Comp. Spts. Lavender, just enough to give flavor.

We are aware that these experiments are not sufficiently extensive to arrive at a positive conclusion; but they may serve to suggest further enquiry, and probably more decided results.

During the last summer I have treated some ten or twelve cases of Intermittents with the Chloride of Sodium, and with results not dissimilar to the foregoing, attended by Dr. Tate. I have no doubt it possesses less value, as a therapeutic agent in the treatment of intermittents, than Quinine, yet decided power in controling this form of disease. My trials of it are not sufficiently numerous to enable me to express any very positive opinion as to its comparative value, in contrast with bark or quinine; yet I am satisfied as a principal or auxiliary agent, in the treatment of intermittents, and perhaps a much wider range of disease, it possesses valuable medicinal properties; and that its claims to the attention and confidence of the Profession have been too lightly passed by. In those cases in which there has been frequent relapses, with an impoverished condition of the blood, and that anæmic condition so often resulting from protracted ague, it seems to act admirably; improving the color, appetite and general tone of the system. The patient rarely relapsing after taking some two or three ounces through the space of as many weeks. The effects on the general system being very similar to that of the chalybeates, acting even more promptly in improving the color and strength of the patient. I sometimes give it in combination with iron, with very satisfactory results. I have not found it to operate on the bowels, given in doses of three or four drachms per day; on the contrary I have given it, in that

quantity, in cases associated with diarrhœa, with a general improvement of this condition, without the intervention of any other means.

REMITTENT FEVER.

Remittent fever, says Dr. Harding, is the most prevailing form of fever among us after Intermittent; and as it is a more grave and fatal form of the disease, has long attracted a large share of observation and inquiry from Western Physicians.

It is a prevalent form of disease with us from the 1st of July to the 1st of November. It usually prevails in a mild and distinctive form, and if treated previous to the supervention of gastric or intestinal inflammation, (to which there has been a decided proclivity for the last few years,) is very amenable to treatment. This feature, with an increased tendency to assume a typhoid character, has modified, in some degree, the course and treatment of this disease. For this reason blood-letting is resorted to much less frequently now, than formerly; if practiced at all now, it is at a very early period of the disease, and then generally for the purpose of relieving cerebreal inflammation, or some other formidable complication, as the benefits derived from blood-letting, for less imperative reasons than those assigned, are more than counterbalanced by the increased tendency to early prostration.

And for reasons equally sufficient, the use of emetics and cathartics are more cautiously and less frequently used now than formerly, from their tendency to develop or increase already the existing gastric or intestinal inflammation. Every thing is gained in the treatment of Remittents by early and efficient medication. I have found almost invariably that our remittents, for the first two or three days after the attack, take on something of the quotidian type; and that sometimes within the first twenty-four hours, after the invasion of the disease, usually ushered in by a distinct chill, there is a well marked remission in the fever, followed perhaps by a less distinct rigor on the following day, with a corresponding imperfect remission of the fever, until after two or three days both the rigor and the remission cease to be observed at all.

If the partial remission is seized upon during the first diurnal period, and Sulphate of Quinine given in ten grain doses, two or three times, without any reference to the previous administration of an emetic or cathartic to cleanse the primæ viæ, as is the common practice. When the proper period for the administration of Quinine is lost, we shall rarely fail to break up the disease on the second or third day. Then if the stomach and bowels, or the secretory system are deranged, we

have time and opportunity for correcting them. If the first diurnal period is lost, as is too often the case, by our not being called during the first day, by close observation we may be able during the second or even the third day to find opportunity of using this invaluable febrifuge with alike beneficial results. At this early period the nervous system is most seriously impressed by the morbific poison. The secretory system is less deranged than at a more advanced period of the disease, local inflammations are not yet set up, hence the safety and efficiency of Quinine as a febrifuge. And although there may be some excitement of the circulating system, or but a partial remission of the fever, yet at this early period Quinine is efficient and safe. By waiting to effect a more perfect one we loose invaluable time, by running the risk of having the case complicated with local inflammations, thereby encountering a condition of things the most unfavorable for the efficient action of this one, almost only febrifuge.

If we are not called on at a sufficiently early period to adopt the foregoing plan of treatment, or if it should fail to break up the disease, as it rarely does, an alterative mercurial course, with diaphoretics, cold effusions or ablutions, or frequent sponging of the surfaces when it is dry and exceeds a natural temperature, with cold water or iced water to drink, together with proper dietetic rules, with timely resort to sustaining remedies, as wine, camphor, ammonia, serpentaria, &c., if there is manifest tendency to prostration, is the usual course of treatment relied upon.

Drs. Crooks and De Bruler, of Rockport, writes that in noticing this disease we scarcely know how to approach the subject. It seems superfluous to write what every body knows; for we do not claim to be able to present any new facts. It is believed that upon this subject the Profession are pretty well posted. Especially is this true with the well educated portion of Western Physicians; for it is certainly the disease with which we have most to do, of course in this last remark we do not speak solely with reference to that disease, technically known as billious fever; but all that class of maladies referable to malaria, as a cause.

Yet notwithstanding our inability to offer any new facts to the Profession, we will, in accordance with your request, give a brief history of the disease and its treatment in this country.

Our bilious fevers, both Intermittent and Remittent, have of late shown an increased tendency to asthenia. Many times, if not early arrested, assuming a low typhoid form, which was difficult to distinguish from a genuine Typhoid fever. But far

more frequently they assume a violent congestive type, or in other words congestive chill has not been unfrequently met with. We are satisfied that in the last three years we have seen more of this affection than we met with for the ten years next preceding.

Gastro-intestinal irritation and inflammation, in conjunction with this form of fever, have also been annoyingly frequent. Especially was this the case with the Summer and Autumn just past. This low typhoid tendency has not been alone confined to our billious fevers ; but has been equally troublesome in Pneumonia, Dysentery, Erysipelas, and indeed almost every disease with which we had to deal.

Topography, as seemed to us, has had something to do with this condition. The low and swampy districts bordering Ohio and its little tributaries, appear to suffer more in this way than in districts more remote from the sources of malaria.— This, we think, is doubtless attributable to the protracted exposure of the inhabitants of the former localities to marsh miasm, thereby lessening vital resistance and rendering the system an easy prey to the deleterious agent, be it what it may. Last winter we scarcely met with a case of Pneumonia or other inflammatory disease in any well marked malarious district, which bore the lancet to any considerable extent, while Quinine, Wine, and other stimulants were resorted to with good success. But patients more fourtunately situated, with reference to this source of disease, often require active depletion.

TREATMENT.

Upon this subject, we will not pretend to enter in detail ; we will only mention the one *great remedy*, Quinine.

It is here regarded as a *sine qua non ;* no physician pretends to manage the disease without it. Instead of the daily repetition of Calomel, Cream of Tartar, Spiritus Mendereri, Spirits Nitre, and the thousand and one stereotyped prescriptions to purge the liver and cool the fever, we begin with a brisk cathartic mercurial or not, as our patient's condition seems to indicate, and then give the Quinine freely. We usually prefer the intermission or remission for its administration, if it is distinct, but if so slight as to be inappreciable to the nurse we direct without reference to the condition of the fever. This we are satisfied, from what we think abundant observation, is the better course.

We have often given as much as twenty grains in from four to six hours, and never in a solitary instance have we seen the fever increased by it ; but on the contrary a copious

diaphoresis, and perfect intermission, are almost sure to follow a few large doses. So constant has been our success with large doses of Quinine in remittent fever, that we would regard its failure a diagnostic sign of value and think we were dealing with some other than bilious fever.

It is true, our patients often complain of a troublesome ringing in the ears; but this sympton we regard as the evidence that the remedy has had its proper effect upon the nervous system, without which, it is not likely to arrest the disease.

We usually prescribe from twenty to thirty grains to an adult, in from four to six doses; some will do with less, many require more.

Dr. Kersey remarks, respecting the treatment of periodical fevers, it may perhaps, be said that venesection, emetics, cathartics, and diaphoretics, are occasionally used, but not so constantly nor with so much confidence as in former years. Quinine is generally regarded as the most desirable means of arresting the progress of every form of this disease. And the demand for its use is early and urgent in proportion to the malignity of the attack. In remittent bilious fever, a few liberal doses of this agent on the approach of a remission, rarely fails to make a favorable impression. One dose of ten grains each morning, for two or three days, has succeeded perfectly in a few instances where it has been tried. In the algid state of congestive intermittent with greatly depressed circulation, Opium, in the dose of five grains, with a corresponding large quantity of calomel, has been used and the system has generally responded to the treatment, though carbonate of ammonia, capsicum, brandy, &c., had been previously used without effect.

In a few cases of simple intermittent, chloride of Sodium, in drachm doses, was given, and in a little more than half the cases the disease was arrested at once, in the others no effect was perceived and they yielded readily to Quinine.

Dr. Woody, of Winchester, Randolph county, describes the surrounding country as being very flat and somewhat marshy, and appears to the casual observer to be very low; but that when examined more carefully it is found to be among the most elevated portions of the State, as streams have their origin in this county that flow in every direction, East, West, North and South. From the Lakes and numerous ponds of stagnant water, in this section of the State, it is a favorable location for the whole family of miasmatic disease. Here we have all of the marked as well as the most common form of remittent and intermittent fever, which is the most common

form of the disease endemic to this portion of the State. We have any year, more or less of the common autumnal remittent fever, but usually of a very mild form; the cases during the last year were unusually mild, not a single case proved fatal; and they were usually characterized by exemption from any marked degree of biliary derangement, or other visceral derangement. Cases of remittent fever, when protracted to the second week, usually assume the intermittent type.

Quinine is relied on as the most efficient agent in this form; but every practitioner has his own mode of prescribing it.

The following formula was a favorite one with me:

℞—Quinæ Sulphas, ʒi.
Comp. Ext. Colo., ʒiss.
Olium Pip. Nig., gtt. xx. M.

And divide into sixty pills, from one to two given every three hours, commencing their use as soon as the fever begins to decline. I vary the amount of the colocynth as the state of the bowels and excretions seems to indicate, but endeavor to have enough to act efficiently on the intestinal tract. This obviates the necessity of prescribing a cathartic, and carries off the vitiated secretions as they accumulate in the intestinal canal, the various excited secretory organs. As a result of this mode of prescribing quinine is the less frequent tendency to relapse than when given uncombined with a laxative or cathartic dose. When there is evidence of an excited or irritable condition of the mucous lining of the intestinal or gastric surface, the oil of pepper is omitted.

In the course of a very interesting letter received from Dr. B. S. Woodworth, of Fort Wayne, he makes the following concise yet valuable remarks on the subject of periodical fever:

"Bilious fever prevails to some extent, particularly on the borders of the rivers and creeks. The most common type is the intermittent, though the remittent is common in autumn, particularly in September. It is mostly of a mild form, very few cases of what is called malignant being seen. Congestive form (so called) is not very common, though occasionally seen. As to the treatment, assuming, as we do, that there is no essential difference in all the various types of the so called bilious fevers, we consider that Quinine is the sheet anchor of hope, the most important remedy in all the forms of remittent as well as intermittent, and for the last fourteen years we have been in the habit of giving it in nearly all cases of remittents at the very outset, without premising cathartics or mercury, or waiting for an intermission. There are some ex-

ceptions to the general course of treatment. If there be high delirium, or symptons of Phrenitis accompanying it, I bleed perhaps, and pursue a general antiphilogistic course till these symptons subside, and then give quinine in doses of about five grains every three hours, until from twenty to forty grains are used. I have found almost invariably the fever to subside rapidly under the use of quinine; and if the fever is not entirely interrupted, if it is of the remittent form it is changed to an intermittent. I have seldom found it necessary to give anything else but quinine. I have usually conjoined the use of ice water internally, and cold effusion or sponging externally. Under this treatment I have found that I have been much more successful, in the management of these forms than I formerly was under the old obsolete, or what might be called the Eberle treatment. I sometimes give a little calomel or blue pill in small doses, after interrupting the fever with quinine.

"I think the mortality of remittent fever is not over one per cent. here."

Bilious fever in all of its types and grades make by far the most interesting portion of disease in the south-western portion of the State. The most common type is intermittent, but remittent, of an open mild character, occurs, and both these sometimes assume the pernicious or congestive character.

The plan of treatment is the same in all of them, varying only in energy of application and detail. Quinine is regarded as the *curative* remedy, while mercury, opium, nitre, &c., are regarded in no other light than auxilliary and palliative means. The chairman of the committee is in favor of commencing the use of quinine as soon as possible, and continuing as long as required by the urgency of the case. Proportioning the doses by the time allowed for its use during the interval and not the intermission of paroxysms. In ordinary cases it is generally commenced upon the first visit, unless some unusual circumstances prevents it, and given in five grain doses, continued with eight grains of Dover Powders every three hours until the disease is arrested. This is nearly always effected in twenty-four hours. Inflamatory complications make no difference as to the use of the Quinine; they may call for additional means, but never do they contraindicate its use.—Precept teaches, or has taught, caution against this practice, when cephalic disorder is a prominent symtom, but unmistakable experience warrants the necessity of it when it is an element of miasmatic fever. The observance of this fact is the only safeguard against fatal error in that class of pernicious bilious fevers which involve the brain in the very beginning.

This remedy should give place to no other; it should be commenced at once, and continued in large doses until the patient is out of danger. While this curative remedy indicated by experience for diseases of this nature is being used, others indicated by symptoms may be profitably employed. Another point in the use of quinine, which is not decided to the satisfaction of the profession, is the propriety of giving large doses to pregnant females laboring under miasmatic diseases. Twelve cases have been this summer under observation of remitting fever, during the various stages of pregnancy, in which this article was profusely given without exciting any irritation in the uterus, or producing any unpleasant symtons whatever. And it is believed that its efficacy in arresting the progress of the fever when used early, during the paroxysm or intermission, will prevent the accident of abortion from occurring as frequently as it would if this remedy was withheld and the case left to the uncertain action of other agents.

It is considered by the chairman of the committee as a gratifying circumstance that there is such unanimity of opinion in the treatment of bilious fever among the physcians of our State; but he at the same time believes that too much stress is laid upon the necessity of waiting for a remission.—He would rather anticipate it, from the consideration that the administration of quinine during the paroxysm renders the former more complete, without increasing the symptons in the latter.

TYPHOID FEVER.

Dr. Woody, says: "During the last winter, Typhoid Fever was unusually prevalent. Indeed this form of disease seems to be on the increase; while on the other hand, there seems to be a diminution of remittent and intermittent fevers, as well as all diseases of a malarious origin.

"This disease, as it prevails here, (and I have seen more or less of it for the last eleven years,) is of a very mild form. I hear of its proving very fatal, in adjacent parts of the country, but I think I may safely say that nine cases out of ten have terminated favorably here.

"The best description I have seen of the disease; or rather the one that answers best to the form in which it has prevailed here, is given in Good's Study of Medicine, under the head of 'Typhus mitior.' A few years ago there was quite a difference among physicians about the treatment of this disease. Some thought they could cure it by an Antiphlogistic treatment, and so gave cathartics, and sometimes used the lancet. I be-

lieve that we have all come to the conclusion that it is a self-limited disease, that its duration cannot be cut short; but that it may be guided to a favorable issue by giving such medicines and such only as will coincide with the curative effects of nature. The plan of treatment I have found best, is the free use of a solution of tartar emetic, given for its contra-stimulent effect, with *Pulvis Doveri* given every night or every other night. If the disease goes beyond the first stage, with the treatment; if the tongue assumes a brown hue and there is tenderness of the bowels, with sinking of the vital powers, we then lay aside the solution and resort to small doses of calomel and ipecac, with a liberal use of tonics and stimulants. It is not unusual for the disease to run a course of forty or fifty days and then terminate favorably. Attempts to break the disease by active medication proved in almost every case abortive and pernicious.

If the cure was attempted by depletion, the vital energies gave way and the patient sank from exhaustion. If tonics and stimulents were used, local inflammation was encouraged in some of the vital organs, carrying off the patient, or greatly complicating the disease. Alteratives, especially mercurials, had no better effect. So soon as the liver was stimulated to action by this potent agent of the Materia Medica, the bile became acid and exhausting diarrhea set in. All that I felt satisfied in doing was to guard well the integrity of important organs, at the least possible expenditure of the vital energies. Cold water, or ice, applied to the head; and hot water, or Sinapisms, to the feet, when cerebral inflammation, or congestion, was threatened, answered a good purpose.

Local indications and symptons were met as they occurred during the progress of the disease. I have treated between thirty and forty cases, on this mild and somewhat expectant plan, and have lost but a single case, a girl sixteen years old, who lived in a family where there had been previously four cases, and under circumstances that rendered proper nursing and attention out of the question."

Says Dr. Harding: "Typhoid Fever has been on the increase in this section of the State, for the last ten years; yet, in this vicinity, it has not prevailed as an epedemic, usually assuming rather a mild and manageable form; and so far as I have observed, giving little evidence of its contagion. Other forms of disease, as Remittent fever, Erysipelas, Scarlatina, &c., have an increased tendency, however, to assume a Typhoid type.

"There are few forms of disease in which the initiatory

symptons are of a more various character than we have in Typhoid Fever.

"We are not justified, without urgent and sufficient cause, to resort to any means that may depress the powers of life, as blood-letting, vomiting, purging or other depressing agents. If the bowels are constipated, as is not unfrequently the case in the commencement of the disease, a mild laxative dose, combined with, or preceded by four or five grains of calomel, is useful, and may be occasionally repeated during the earlier period of the disease. On the contrary, if the attack is ushered in by diarrhea. Hydrarg. Cum Creta and Pulv. Doveri, or some other anodyne combination, when not contra-indicated by cerebral inflammation or congestion, is useful in correcting the vitiated secretions, and in abating exhausting diarrhea, and of arresting further developement of intestinal disease. Fomentations, cupping with or without scarrifications, as indicated by the general circulation and other evidences of more or less vital energy. Anodyne enemata may be added to the Hydrarg. Cum Creta, when found inefficient, together with such vegetable and mineral astringents as the extent and persistence of the intestinal disease may indicate. The free use of cold water, both externally and internally, is undoubtedly one of our most safe and reliable therapeutic agents, in the treatment of this form of fever.

"I have not adopted any particular system of practice, in the treatment of this disease; but have found that the indications of treatment vary with the varying epedemic constitutions of different years; for this is constantly changing, and therefore renders the adoption of any absolute system of treatment inadmissable. While, one year, general and local depletion may be borne well, in another, they would do mischief—tonics and stimulents being demanded from an early period of the disease.

Upon the whole, a mild and rather expectant plan of treatment has answered the best purpose in my hands, guarding the integrity of the vital organs by such revulsive and depletive means as subject the system to the least loss of vital energy; treating individual lesions of functions or structure as threatened, or induced, during the progress of the disease, as we would treat an idiopathic affection of the same organ, or structure, having due regard to the constitution and character of the malady, with which we find them associated.

Conceding the improbability of arresting the disease, "*in limine*," so long as it seems to be passing through its various stages, without serious local complication, very little control is attempted, other than can be effected by ablutions, cold or

tepid; proper ventilation, and dietetic rules, together with cold water and mucilaginous drinks.

"When there is a tendency to failure of the vital powers, Quinine, Bark, Ammonia, Turpentine and Camphor may be resorted to with good effect. But wine and other alcoholic liquors should be chiefly relied on for supporting the strength, as they contain both stimulating and alimentary elements.—All of these agents, however, require close observation and a cultivated discretion as to the proper period for their employment or discontinuance.

"The pulse, in connection with other evidences of exhaustion, is the most reliable guide, as to the propriety of their exhibition, both as to time and quantity."

Drs. Crooks and De Bruler observe, "that this disease, of late, is attracting much more attention than it did a few years ago; and the impression generally prevails that the disease is steadily on the increase.

"Anterior to the year 1845, we believe this disease was rarely recognized by the physicians generally of this country. Since then, however, it has become quite common.

"In its general character, course and symptons, it seems to fill the bill as already laid down in the books.

"This last summer however, it has not unfrequently combined with intermittent and remittent fever. Sometimes the diagnosis was difficult. Quinine would arrest the chill, but the fever would continue. That is, the fever became continued. the bowels tympanitic and in a short time diarrhea, rose-colored eruptions, sudamina, &c., convinced us that we were dealing with true Typhoid Fever. Quinine, when given for four or five days, (as was sometimes the case when the diagnosis was doubtful) seemed to us to exert no beneficial influence on the fever; but on the contrary we think it was sometimes injurious; especially did it appear to increase the general nervous disturbance.

"Nor have we been more fortunate with mercury as a remedial agent in this affection; although we have often used it, and especially in that stage characterized by a dry tongue and other evidences of suspended secretion. We are satisfied we have never seen the tongue become moist and clean during its use which was not more attributable to some other cause. On the contrary we have seen very unhealthy inflammation of the gums and cheeks resulting from its influence.—We have consequently nearly abandoned the remedy in the treatment of this malady.

"The treatment adopted by us is rather expectant, considering it a fixed fact that the fever cannot be arrested; that

it will to a certain extent run its course; and that our duty is to treat the symptoms as they may develop themselves.

"The especial indication, doubtless, is to treat the follicular inflammation, and the resultant diarrhea and tympanitis.—For this purpose we prefer the terebinthinate practice. In our hands it has succeeded incomparably better than anything else. We use it both internally and externally; regarding its free application to the external parts of the abdomen as highly important when the bowels are tender or tympanitic.

Next to the turpentine, we think we have obtained more satisfactory results from acetate of lead, than any other remedy. Where diarrhea and tenderness of the bowels predominated over fever and nervous derangement we have frequently trusted the treatment almost wholly to it; often, however, combining it with opium or Dover's powders, and sometimes alternating it with the turpentine."

Says Dr. Kersey—"It is believed that typhoid fever should not be treated with the prospect of cutting short the disease by active remedies; but with the view of preserving the strength and visceral integrity of the patient during a lingering and dangerous illness. The use of cold water is probably too much neglected in the treatment of this disease.

"In the treatment of dysentery, I have mostly relied on the bitartrate of potassa, as a means of unloading the portal vessels; afterwards, opium in efficient doses, cold mucilaginous injections, cold water to the abdomen when very hot; and recently pulverized charcoal has been used with good effect.

"Erysipelas, as an epidemic, has not occurred here; but sporadic cases are met with every year. Muriated tincture of iron, (as proposed by the Bells of Scotland,) in doses of from twenty to forty drops every three or four hours, has been used in several severe cases, and it is believed with a salutary effect. Purgatives, the local remedies, such as nitrate of silver, tincture of iron, &c., were also used."

Dr. Graham writes—"I have at my disposal a paper read by Dr. Shields, before the New Albany Medical Society, on "Typhoid Fever, as it appeared for the last eight or nine months in our city," from which, through his kind permission, I make a few extracts.

"Says the Doctor, 'I shall divide the progress of this disease into three stages—1st. The synochal, marked by exalted arterial action and hyperesthasia; 2d. Adynamic, by depressed arterial action and partial anesthesia; 3d. Convalescence, marked by the cessation of morbid, and return to healthy action and sensation. I am aware that these stages run imperceptibly into each other, without any distinct line of demar-

cation. Our guide in this division is the predominance of one or other of the distinctive symptoms of these several periods. By pursuing this course, the various and verging phases of this disease may be the better pointed out, and the course of the treatment pursued, the better understood. The active antiphlogistic treatment will be embodied in each case, in order that its influence on the progress of the disease may be the better seen. In the first case, the two first stages may be divided into very striking contrast; and being the only one seen by me that terminated fatally, it will be given more in detail.

"The first case was Miss M. R. Williamson, aged 16 years. She complained of not feeling well for several days before the 7th of August, when she was attacked with pains in the head and back. Synochal stage; she remained in this state for three or four days, free from pain or any uneasy sensations, and on every visit said she was getting well; but this proved to be a mere truce, and I found her more and more inclined to sleep during the day and restless at night; pulse becoming more accelerated; skin dry and husky, though not much above the natural temperature; tongue in the centre covered by a thin mucous coat, while the point was clean and red; not much thirst, and no appetite; bowels moved once or twice a day, and operations of a light yellow or ochre color; urine being colored and diminished in qauntity, and much muscular prostration. These symptoms increased from day to day, the pulse becoming more and more frequent and feeble; hands and tongue tremulous; slight delirium, first at night, which in two or three days became continuous and excited; great incoherence, and frequently frightened at persons or things in the room; bowels moved frequently; dejections thin and dark colored; abdomen metorized; urine suppressed; the skin now became cold and clammy; pulse almost imperceptible; involuntary stools; and death on the 19th or 20th day."

I have before me Dr. Shield's report of nine or ten other cases of typhoid fever, treated by himself, all of deep interest; but it would add too much to the length of this report to transcribe them, and we copy only his remarks on the *treatment.*

"In expressing the opinion that it is very little under the control of medicine, I would by no means be understood to disparage the healing art, or encourage any one to dispense with its timely aid. On the contrary, much good may be done by subduing and calming the perturbed action of the heart, soothing the excited and sensitive nervous system, restoring the secretory organs to their normal functions, pre-

venting or subduing local inflammation, giving support to the sinking vital powers, reducing or equalizing morbid heat, and in various ways assist nature in eliminating the morbific agents.

"The course of treatment commenced with, has already been sufficiently given in the various cases narrated. I saw no case in which I supposed the lancet was required. The emetics were alone given during the first part of the synochal stage, when there was nausea and oppression of the stomach, accompanied by bilious derangement. Active cathartics were only given during the same stage; while the milder kinds were used during the progress of the disease, to obviate constipation, or remove vitiated secretions. Tart. antimony in small doses, largely diluted, to subdue the heart's action, soften the skin, and thereby reduce morbid heat. Nit. pot., in solution, as a refrigerant; bi-carb. pot., for same purpose, also to act on the skin and kidneys. The free application of cold water, to diminish or reduce morbid heat, soften the skin, and soothe and pleasantly excite the nervous system.

"During the progress of the disease, when the skin was not much above the natural temperature and degree, the free and repeated sponging the surface with warm water, proved a valuable adjuvant for the same purpose, and was very grateful to the patient. Mercury, in alterative doses, to excite or restore the secretions, were given during the latter part of the synochal and first part of the adynamic periods. In two cases, ptyalism was co-existent with convalescence, if not instrumental in producing that desirable stage. It was generally combined with small doses of pulv. Doveri. I seldom or never gave it during the latter stage of the second period.—Opium I regard as almost indispensable in the treatment of typhoid fever—to diminish nervous excitability, to restrain too free bowels, and produce sleep. After free purging at first, 1½ or 2 grs. of opium, with 2 grs. of calomel, and ½ gr. tart. ant., at night, to secure a good night's rest, is invaluable; also combined with ipecacuanha, in small doses, to act on the skin and check loose bowels. In some cases of morbid vigilance, the opim. camph. and tart. ant. will act like a charm in securing rest. The opium may be beneficially used, more or less, throughout the adynamic period, and be continued even into that of convalescence. To restrain dysentery or diarrhea, the opium and act. plumbi is principally relied upon. The spiritus Mindereri, or a combination of spirits nit. dul. and bi-carb. pot., in solution, as a mild sodorific and stimulant during the second stage, was of service. Also stimulants during the latter part of the second stage; among which the

spirits turpentine could be used the earliest, to obviate morbid irritation of the mucous membrane; sustain the heart's action; give tone to the skin, and check the profuse vitiated secretion from the same; also to act on the kidneys. The bal. copaiva may sometimes be used for the same purpose. Brandy, wine, ammonia, and camphor, are also valuable stimulants during the latter part of the second, and first part of the third stage. Blisters, and warm poultices, or fomentations, were beneficial in subduing local inflammations. Tonics and a mild nutritious diet usually closed the treatment; particularly the latter should be given in small quantities, at regular periods, towards the decline of the adynamic stage, so as to sustain the vital powers."

The united evidence of nearly all of the above contributors leads to the inference that typhoid fever has but recently (in the last twelve years,) made its appearance in Indiana—probably in the Northern and Eastern portions first, and in the two or three subsequent years, in the Southern and Western parts of the State. Without any exception they believe that the treatment should be mild and "rational." Contrary to the testimony of some recent British writers, they are satisfied that it cannot be interrupted in its course by any energetic treatment whatever. Drs. Crooks and De Bruler pointedly state that Quinine has invariably failed to do so upon repeated trial; and that now they regard the effect of this medicine as diognostic evidence in favor or against its presence, where there is any doubt between it and bilious fever. The chairman of the committee has arrived at a similar conclusion, after the same experimental management. We are hardly warranted by the testimony herein contained, to suppose that it necessarily either modifies or supplants the ordinary miasmatic endemic diseases, although it is thought to do so by some of these intelligent physicians. Neither is it confined to, although most prevalent in the cold season of the year.

DYSENTERY.

Dr. Harding, speaking of dysentery, says—"Dysentery has prevailed in this county (Dearborn,) as an epidemic, with more or less severity for the last four years. It has usually made its appearance about the middle of July, and constituted the prevailing disease from that time to the 1st of October. During the last summer and autumn, however, we have had much less of this disease, and in a much less malignant form, than during the previous three years, succeeding to the visitation of epidemic cholera in 1849.

"It has prevailed more generally, and in a more malignant

form in the hilly and elevated portions of the county than on the bottoms and alluvial deposits contiguous to the Ohio river and its tributaries.

"I have remarked above that the disease made its appearance in a more severe form in the latter part of summer and the early part of autumn, and in elevated and broken localities. This is a season of the year when wells and springs (the usual sources of water for culinary purposes,) are very low, frequently turbid and hard from the amount of calcareous matter held in suspension and solution in it. This condition existed in an eminent degree from the long drought that prevailed during the summer and autumn of 1850 and 1851.—Water used for similar purposes in the alluvial lands along the Ohio river, contains less calcareous and other foreign matter, as the wells are usually supplied from the bed of the river by filtration through strata of sand and gravel for a quarter of a mile or less extent, thereby depriving it of much more of the lime and foreign materials, than water not thus filtered.

"It would be highly interesting to know how far this form of disease and the water of such situations bore the relation of cause and effect. An attack of this disease was usually ushered in by pain in the stomach and bowels, with nausea and diarrhea, two or three days previous to the occurrence of the real dysenteric discharges. The chill or rigor that often precedes the development of internal inflammation, was frequently absent in this epidemic. The tongue soon became more or less coated; with increased action of the heart and arteries. The discharges, in many cases, consisted of small portions of whitish mucus, mixed with blood; but in much the largest portion of cases they were somewhat watery, containing vitiated bile, with shreds of false membrane, and more or less fæcal matter. If the disease continued without abatement, the tongue was soon covered with a dark brown fur, or became pointed and glossy, or fissured and cracked, assuming the appearance of raw beef.

"The treatment employed has not essentially varied from that adopted in intestinal inflammation, except so far as bleeding is concerned. Patients were not thought to bear general depletion well; therefore the joint revulsive and depletive effects of cups were sometimes used, but with no very encouraging results. The internal remedies consisted of calomel, opium or its salts, acetate of lead, &c., variously combined; mucilaginous drinks, fomentations to the bowels, starch water enemata, with a few anodyne combinations, frequently

had a very happy effect in relieving the excessive tormina and tenesmus, particularly in adults.

"I believe the principal benefit obtained from calomel was during the first three or four days after the attack, and then in small and frequently repeated doses. After the third or fourth day, its effects seemed more equivocal and not so well borne, but rather to increase the redness and dryness of the tongue, and the pain and frequency of the dejections.

"Different cases required various modifications of the treatment; but in all, opium in some form, either alone or in combination, both per stomach and rectum, seemed to be the most valuable remedy, and indispensable to the successful treatment of the disease. Spirits of turpentine, balsam copaiva, creosote, pyrolignous acid, nitrate of silver, and various vegetable astringents, were occasionally used in combination with opium, with apparent advantage; but the effect ascribed to them was most probably owing to the opium used in combination. The following were prescriptions very much relied on in my own practice:

℞—Massæ Pillula Hydrarg. ℈i.
Plumbi Acetatis, ℈ii.
Morphiae Sul., gr. ii.
Pulv. Ipecac., gr. v.
M. et fiat.
Massæ in pillula decem dividenda.

S. one to be given every two or three hours till discharges become less frequent, and of a bilious character. After which the following may be substituted for it with great advantage:

℞—Olei Ricini, ℥i.
Spts. Terebin., ℥ss.
Acaciæ Gum., ℥ii.
Syr. Simplex, ℥ii.
Tinc. Opii, ℥ss.
Olei Pip., gtt xv.
M.

S. given in doses of from half a table spoonful to a table spoonful, every two or three hours, as the pain is more or less severe, and the stomach is able to retain it.

Convalescence was frequently very slow, often produced, perhaps, from improper diet and fatigue. The disease was of more difficult management in children than adults. As a revulsive agent, fomentations were preferable to blisters. An occasional aperient dose was found useful during the progress

of the disease. The bitratrate of potassa, sulphate of magnesia, and olium ricini were most generally relied on for that purpose, substituting the one or the other, as the circulation was more or less active, and the dejections more or less serous or mucus.

"In a few cases during the last few years, the nervous system received a violent shock at an early period of the disease, so much so as to be unable to react under the continued pain and excessive drain on the fluids of the system. In those cases the discharges were not mucus and scanty; but on the contrary serous, mixed with blood and shreds of false membranes—indeed, similating very closely a condition of the circulating system, analogous to what we have in the incipient stage of collapse in cholera, and the depression of the nervous system and circulation in the invasion of an attack of congestive fever. Stimulants and revulsive agents, in addition to opiates and astringents, to arrest the discharges from the bowels, were indicated. Such cases rarely had a fatal termination within a period of three or four days. Such attacks were less manageable among children than adults.

"Not having an opportunity of making post mortem examinations, to illustrate the pathology of the disease, I was forced to the conclusion that it was in the beginning congestion of the colon and rectum, passing rapidly into inflammation of the same structures; but it was difficult to say at what precise time this change took place.

"In some few fatal cases, it is probable, inflammation never took place, the patient dying in thirty-six or forty-eight hours, from the shock the nervous system had received.

"Scarlatina and measles have prevailed to a considerable extent during the last three months, but generally in a mild form, passing through their various types to a favorable termination, under a mild and rather expectant plan of treatment. I have occasionally prescribed beladonna in the treatment of scarlatina for the last two or three years, both as a prophylactic and curative agent; but have used it more extensively, and observed the result of its exhibition more closely this winter and spring past, and I am disposed to award it some efficacy both as a curative and preventive means. But my impressions, to be of any practical value, need confirmation by a wider field of experience and observation."

According to Drs. Crooks and De Bruler, "Dysentery, last summer and autumn, prevailed to an unusual extent. It presented no peculiarity other than it was not attended with anything like the usual mortality. It was dysentery, how-

ever, to all intents and purposes, and apparently of as violent a character as we are accustomed to see.

"But the almost universal success attending our prescriptions, would be evidence enough to convince any other than an eye-witness, that it was of a milder and more manageable form than common. How much of this success should be attributed to a supposition of this kind, and how much to the adoption of what is to us a new practice, is a matter about which physicians may disagree. But with us, there are no doubts upon this point: we are satisfied, beyond the reasonable possibility of being mistaken, that the success depended upon a thorough and radical innovation upon the old time-honored practice.

"In a few instances where we were satisfied that there was hepatic torpor to a considerable extent, we gave mercurials cautiously, not because we desired their influence in the treatment of dysentery proper, but to remove a condition which most probably would retard the cure. Aside from this consideration of things, we never gave it at any stage of the disease. A very large proportion of our cases,—nine-tenths at least,—were treated without mercury in any form whatever.

"We adopted the saline and terebinthinate practice, usually commencing with a full dose of the sulphate of magnesia. The design is to purge the patient freely, which in our practice never failed to relieve the most distressing tenesmus. It is well known that the inflammation is located in the colon and rectum; and the straining efforts at stool constantly refer to these parts. It is equally true that the small intestines are very inactive. Now, the inordinate and increased action of the lower bowels seems to be heightened by the torpidity of the upper; and when the latter are put in full action, they appear to diminish the action below. The upper bowels being set to work, or, in other words, being irritated, increases the area of excitement, and consequently lessens it at the point of radiation. If the above supposition be true, (and we believe it generally is admitted,) the modus operandi of saline cathartics can be satisfactorily explained: for it is the peculiar province of Epsom salts to act on the whole extent of the alimentary canal—thus diffusing, and consequently lessening, the irritation as above explained. This may, or may not, be the true explanation; but it does not lessen the value of the fact, that free purgatives of salts relieve tormina and tenesmus; that the muco-sanguineous discharges are replaced by free and easy evacuations, and that this relief may be obtained as often as the peculiar symptoms return.

"After the bowels are relieved, as above indicated, we com-

mence with the oil of turpentine, and give from ten to thirty drops every four or six hours; usually combining with it olive oil and laudanum, if opiates are indicated. We also not unfrequently, and we think with much advantage, use spirits of turpentine externally over the bowels, especially if there is much tympanitis.

"These are the remedies on which we principally rely; but of course we use other means as adjuvents; and especially do we direct our patients to remain quietly in bed—this we regard of the highest importance, for the erect position almost invariably increases the tenesmus, the reason of course is perfectly apparent.

"Cotemporary with dysentery, we had an epidemic cholera influence, which has prevailed to a considerable extent for the last two years. A few scattering cases of a violent character, occurring usually in feeble and broken down constitutions, most of whom died, was about the extent of the ravages of this fatal malady."

ERYSIPELAS.

Drs. Crooks and DeBruler says: "Quite a number of cases of Erysipelas have occurred in our practice during the last two or three years, perhaps a greater proportion than formerly. A typhoid type has characterized them, as it has most other phlegmasia.

"Our practice in this disease, from what we are able to learn, is different from that generally pursued by the profession, and not very reputably sustained by the *Books*. It consists of a liberal use, as a topical application, of the Blue Mercurial Ointment.

"We ordinarily commence with a brisk mercurial cathartic, and keep the bowels well purged during the remainder of the disease, with such mercurials as the condition of the patient may indicate. But from the very commencement of the inflammation apply the Blue Ointment abundantly, until the disease is arrested. As soon as this is ascertained its use should be dispensed with, as its longer continuance would most likely produce salivation; a condition, however, not to be regretted, if the disease is indolent or obstinate.

"This was a favorite practice of the late Dr. S. P. Cisna, and we do not recollect of loosing a sporadic case for the last two years under its timely employment.

"The character of the attending fever frequently admits of an invigorating course of treatment. We not unfrequently used during the entire course of the disease, Quinine, wine, and brandy, separately, or combined, as the case may be.

"An epidemic Erysipelitous inflammation occurred here some years since, attacking the mucus membrane of the mouth, fauces, &c., and was in a great measure uncontrolable under any treatment with which we are acquainted.

"It did not prevail to an alarming extent in this county; but a very considerable majority of those attacked, with any degree of violence, died; a few of the milder cases, and some who appeared very bad recovered."

Dr. Burt says: "Within a circuit of twelve miles, (Vernon being the center,) there have occurred about one hundred cases of Erysipelas, of which number about twenty-five proved fatal.

"It first made its appearance about December 25th, 1851, upon a change of almost unprecedented cold to very warm weather. In most cases, the symptons complaimed of were soreness of the throat; on examination, the tonsils and uvula were found to be swollen and inflamed. In most instances, the inflammation seemed to extend to the glottis and epiglottis, as evinced by difficulty of deglutition and an inability to speak above a whisper. When this condition had existed for about three days, an inflamed point would appear on the face, extending in a few days to the entire face and head. In some instances there would be a gradual subsidence of the inflammation of the throat, on the extension of the disease to the face and scalp; while in other cases all of the original symptons became worse. A copious secretion of mucus would take place, with an inability to expectorate, and the patient would die of Apnœa.

"In a number of cases there was no cutaneous inflammation whatever; on the contrary the diseased action appeared to extend to the lining membrane of the stomach, producing nausea and vomiting.

"In one instance I was convinced that perforation of the intestine had taken place, as there was a sudden supervention of all the symptons of acute peritonetis, of which the patient died. Generally there was no high febrile excitement; but on the contrary a manifest depression of the vital powers below the natural standard. The pulse being soft and yielding, though frequent, as in typhoid fever.

"The plan of treatment, of our physicians, was various.—One was in favor of blood-letting in the early stage of the disease. Others used tonics and stimulants; directing their whole efforts to husband the strength of the system; while others seemed to rely upon Nitrate of Silver, Tinc. of Iodine, &c., to the surface. The tonic and stimulating treatment was upon the whole the most successful. It was the only treat-

ment, that answered to the indication of the disease, and the only one adopted that was not positively injurious.

"As to the treatment, by cauterizing the inflamed skin, or glazing it over with Tinc. of Iodine, and Nitrate of Silver, it was simply ridiculous; for it is certainly true that the constitutional disease bore no proportion to the eruption on the surface; but on the contrary in some severe cases there was no eruption on the skin whatever.

"The treatment I generally pursued, was Quinine and capsicum internally. The frequent use of a gargle, of Oak-bark, and the application of a poultice or warm fomentation to the surface. I remember, in one case, that terminated fatally, using a medicine both tonic and astringent, the muriated tincture of iron; but without any good result. This was before the attention of the profession had been directed to that article, in the treatment of Erysipelas."

W. H. BYFORD,
M. H. HARDING,
J. N. GRAHAM. } *Committee.*

REPORT

ON THE PROGRESS OF

MEDICAL CHEMISTRY.

BY GEORGE MACLEAN, M. D.

It is unreasonable to suppose that persons engaged, as most of the members of this Society are, in the active practice of their profession, can add much that is original to our information respecting any of the collatteral sciences, chemistry for example. And while many useful observations are from time to time published in different parts of the world, they are so diffused through various journals that, unless special pains be taken to collect them, few will ever come to the knowledge of even a small proportion of the members of our profession. Under this impression, and perceiving that this society has no committee on Medical Chemistry, I have prepared this report upon the progress of Medical Chemistry during the year ending April 1st, 1853; the greater part of which, however, had been written for another purpose.

SALIVA.

Chemist, New Series, Vol. 3, p. 496.

Lassaigne has given the analysis of the fluid of the submaxillary glands in the cow, also of that of the parotid in the same animal, and in the ram and horse; which it may be not uninteresting to compare with 4 analyses of human saliva contained in the Sydenham Society's edition of Simon's Animal Chemistry.

The sub-maxillary fluid of the cow contained in 1000 parts 3.53 of animal matter and 5.33 saline; the parotid fluid of the same animal contained .44 animal and 8.82 saline. The parotid fluid of the ram contained 1 part animal matter and

a fraction over 10 parts of saline. In that of the horse these matters were in the proportion of 2 animal and 6 saline.

In the human saliva Simon found 6.325 animal and 2.50 saline matter: Berzelius a little over 7.3 animal and somewhat less than 2.8 saline: Wright a little over 4.9 animal and less than 5.8 saline, and L. Heretier 12.6 animal and 9 saline.

Notwithstanding the manifest differences in these analyses of human saliva, they, with the exception of Wright's, agree in making the proportion of animal matter much greater than the saline; and with the same exception their analyses contrast strikingly with those of the fluid from the lower animals, in which the saline ingredients strongly predominate.

Admitting the accuracy of these several analyses, and taking their averages, we find the proportion of animal matter to saline to be in the baser animals nearly 1.77 to 7.: while in the human being it is 7.31 to 2.99 nearly, a very remarkable contrast.

SPUTA.

N. Y. Edition London Lancet for 1852, Vol 2, p. 135.

The observations of Lionel Smith Beale, M. B., lead to the conclusion that the chloride of sodium, which in a state of health passes off in the urine, is diverted to the lungs in pneumonia, and is discharged with the sputa, in a ratio increasing with the violence of the disease till hepatization may take place, when there is a total absence of it from the urine, the whole being now retained by the diseased part. Upon resolution occurring the salt is taken up by the blood and again appears in the urine.

PERSPIRATION.

Chemist, N. S. Vol. 4, page 145.

The analysis of human perspiration had been previously performed on very small quantities, and which, it is at least possible, had undergone some degree of fermentation. M. P. A. Favre has published the result of his researches, conducted with precautions preventing any admixture or fermentation, and upon a large scale, the whole quantity experimented upon being not less than 40 litres, (a little more than 10½ gallons.)

Before fermentation its odour was slight and not disagreeable, the repulsive smell of butyric and volatile acids always possessed by fermented perspiration being entirely absent.

By dividing the matter into equal portions and examining them successively, it was found that of two quarts, the first third was always acid, the second neutral or alkaline, and the

third always alkaline. The acid portion, upon a very slight evaporation, loses its acid reaction and becomes alkaline.

The substances obtained from the perspiration, were:

1st. Those insoluble in absolute alcohol. They contained no magnesia nor uric-acid; and ammonia was not detected. Part was insoluble in water, pure or acidulated, consisting of insignificant fragments of epidermis; part was soluble in acidulated water and furnished only traces of alkaline-earthy phosphates; and part was soluble in pure water, and contained a large proportion of chloride of sodium, some chloride of potassium, very little alkaline sulphates and albumenates, with traces of alkaline phosphates and calcareous salts.

2d. Those soluble in alcohol and insoluble in ether. In these, Favre detected lactic acid and an acid not before described, whose analysis indicates some constitutional connection with uric-acid, inosic-acid and xanthic oxide. In its free state it is syrupy, uncrystalizable and soluble in absolute alcohol. It forms soluble salts with almost all bases. Its silver salt is very sparingly soluble in absolute alcohol, so it can be easily separated from lactate of silver; it is rapidly colored by light and instantly decomposed by water. Finding it to differ from all other known acids, Favre proposes for it the name hidrotic or sudoric acid. He supposes it and lactic acid to be the only acid in this portion of the sweat. He proved the absence of acetic and volatile acids. The lactic and hidrotic acids were in combination with soda and potassa.

3d. Those soluble in ether. These were only a little fatty matter with urea. The latter can be obtained in large clear crystals.

A comparison of the constitutions of perspiration and urine shows that in both the most predominating mineral matter is chloride of sodium; sulphates are more abundant in urine, mere traces being found in perspiration; a much greater proportion of potassa and soda is eliminated in combination with organic acids by perspiration than through the kidneys. Mineral salts then are not discharged indiscriminately by the various secretory organs. It further appears that of organic matters some are common to both secretions and some peculiar to the perspiration; "but all these matters present the character of highly oxygenous substances which have undergone in the torrent of the circulation a very advanced combustion, and comparable to a certain extent with that of the elements eliminated by the kidney."

BLOOD.

Chemist, New Series, Vol. 3, page 385.

I. The contradictory statements of eminent chemists in relation to the nature of the fatty matter of venous blood, induced M. Gobley to undertake a new examination of it, which has led him to the following conclusions:

1st. That contrary to both the opinions of Berzelius and Boudet, that margaritic and oleic acids exist in the blood, combined with soda, and of Le Canu, that they exist there in a free state; the blood contains them in neither condition, but that they are formed by the putrefactive decomposition of the lecithine (the phosphuretted fatty matter) of the blood, which takes place very rapidly if the vessel into which the blood is received be not absolutely clean.

2d. That the fatty matter of the blood is of a far less complex nature than was supposed. being composed only of oleine, margarine, cholesterine, lecithine, and cerebrine.

3d. That lecithine obtained from blood is not, as supposed by Boudet, Chevreal, and Le Canu, crystalizable. It is of the same nature as the phosphuretted matter found in the brain, in the yolk of the fowl's egg, and in the egg and soft roe of the carp. That by its decomposition, oleic, margaritic, and phosphoglyceric acids are produced; the former two are very readily found; to detect the last some precautions are necessary.

4th. That the only crystalizable matter in the fat of the blood is cholesterine, having the same composition and properties as that obtained from the yolk of eggs or biliary calculi. Its adhesion to the lecithine will account for the apparent crystalization of the latter.

5th. The cerebrine is identical with that of the yolk of fowl's egg, of the egg and soft roe of the carp. It swells up in boiling water, fuses at a high temperature, and containing nitrogen it yields ammoniacal products.

6th. Boudet having by means of boiling water dissolved out most of the saline matter from dried serum of fat of blood, subjected the residue to the action of alcohol and obtained a clear liquid, which upon cooling became turbid and deposited white flakes, which, regarding it as a new proximate principle, he called "seroline." From this opinion Gobley dissents, because the fusing point of a proximate principle is always uniform, by whatever process it be procured, and is therefore one of their best tests, while that of seroline varies with the quantity and strength of the alcohol used in its preparation. He regards it as a complex body, formed most frequently of

oleine, margarinè, cholesterine, and albuminous matter, the last alone containing nitrogen, is the source of the ammonia obtained by the decomposition of seroline.

Chemist, N. S., Vol. 3, page 448.

II. Previous analyses of the blood of the vena-porta and the super-hepatic veins not having led to any important physiological consequences, Lehman instituted a new analysis. The blood was obtained chiefly from horses within ten hours after feeding, care was taken to prevent the admixture of any foreign matter with the blood.

Without stopping to repeat the details of his analysis, I shall proceed to state some of his observations and inferences. The blood of the ven-aporta, 5 or 10 hours after eating, presents no physical properties different from those of venous blood of the general system.

Neither the peculiar materials of the bile, nor the products of their proximate analysis, have been discovered in the blood of the vena-porta; the bile therefore must be eliminated from substances presenting no analogy with its proximate constituents.

The red globules of the blood of the super-hepatic veins are smaller and less regularly lenticular than those of the blood of the vena-porta.

In the super-hepatic blood the colorless globules are more abundant than in any other except the splenic; consequently in the liver the individual globules already existing must be increased by addition of matter, or which is more probable, their number augmented.

The observation of Bernard, that the liver elaborates sugar, was fully confirmed, very little being found in the vena-porta, but more in the super-hepatic than in other venous blood.

The fibrine of the blood of the vena-porta, and that of other venous blood, are identical. The blood of the super-hepatic veins contain no fibrine, or a very minute quantity; consequently a quantity of fibrine must be destroyed in the liver.

The blood of the super-hepatic veins contain less albumen than that of the vena-porta does; the albumen must therefore be transformed in the liver.

The liver forms a great quantity of extractive matter, the serum of super-hepatic blood containing 2 or 3 times as much as the blood of the vena-porta does.

The super-hepatic blood contains one-eighth less albumen, one-fourth less fat, and about one-half as much salts as that of the vena-porta. The salt aids in forming the bile, but by far the larger portion pass into the globules of the super-hepatic venal blood.

The interglobular liquid, and not the globules, furnish the materials for the secretion of bile.

Chemistry, N. S., Vol. 3, page 539.

III. According to Le Cann, if blood flowing from a vein be received into a saturated solution of sulphate of soda at 55°F., and the mixture filtered through paper, the globules are left intact on the filter; while the serum passes with the saline liquid; the mixture is slightly yellowish and continues limped until putrefaction has taken place; but if it be diluted with 7 or 8 volumes of water, it soon becomes a jelly, from which, on a cloth, a liquor charged with albumen flows out, leaving on the cloth after compression, colorless translucent and somewhat pearly fibrine. On the contrary, the globules washed in saline water does not furnish any fibrine.

Hence he concludes, that the globules of blood coagulated spontaneously, or by heat, represent the red corpuscles, and the serum with the fibrine represent the liquid portion of the living blood in higher animals; the fibrine of blood coagulated in either way, the inflamatory coat, false membrane of croup, &c., are derived from the liquid part of the blood exclusively; the buffy coat may co-exist with the ordinary quantity of fibrine, provided the water be sufficiently augmented. The well known production of the buffy coat by blood-letting, strengthens this conclusion.

Washing properly performed in water charged sufficiently with sulphate of soda, frees the globules entirely from serum without injury to their texture. If, however, pure water be employed, it passes the filter charged with hæmatosin, albuminous, and other matters taken from the globules. We have here decisive proof of the existence of an envelope upon the globules impermeable to the saline solution, and by inference to the liquid part of the blood, but which can be penetrated and ruptured by pure water.

He concludes that the globules contain albumen precisely like that of the blood; globulin and albuminous matter peculiar to themselves, and distinguished from ordinary albumen by being soluble in alcohol of 20°, and forming with cold water a solution from which subacitate produces no precipitate; a fibrinous matter distinct from fibrine, having the form of small membranous sacs, with a pearly aspect, resisting the action of caustic alkali, and probably forming the true matter of the envelopes, hæmatosin and water.

Chem., N. S., Vol. 4, page 11; Chem. Gaz., Vol. 10, page 273.

IV. Mr. Funke had obtained crystals from the blood of kittens and pigs, and that of the splenic vein of the horse, by distending the globules with water, so as to rupture their

envelope, and then evaporating on the object glass of a microscope. Crystals were subsequently obtained, in the same way, from the blood of a great variety of fishes, of dogs, rats, mice, and squirrels. M. Lehman has obtained crystals on a larger scale (having in the case of the guinea pig a diameter of three-fourth line) in the following way: Blood is mixed with water, alcohol, or ether; or which is best, ether and water, and introduced into a cylindrical vessel closed at one end with pigs bladder permeable to water, and at the other by coutchouc permeable to ether and alcohol; as this last passes off by endosmosis the blood becomes turbid; the instrument is then left to itself at a temperature from 55° to 68°F. As the liquids evaporate the crystals form; they are purified by washing and lixiviation with water in which they dissolve with difficulty. To free them entirely from the envelope they must be dissolved in water at from 104° to 122°F., and the liquid filtered. They crystalize with difficulty from the solution.—His analysis has led M. Lehman to think that they are formed by the combination of an albuminoid substance with mineral matter. They contain much water of crystalization, and are efflorescent. Their solution coagulates at from 143° to 157° F.; it is not precipitated by acetic acid, but is by the mineral acids, alcohol, and in general by those re-agents which precipitate albumen.

N. Y. Edit. Lond. Lancet for 1852, Vol. 2, page 309.

V. Magendie analyzing the blood drawn on the 6th, 8th, 15th, and 17th days from a glandered mare, deprived of all solid food and allowed but a limited quantity of water, and which died on the 24th day, found the solid constituents to be increased at each bleeding. It appeared probable that the albumen and fibrine, although as well as the globules increased in quantity, had been altered in quality; for two days before death the blood did not coagulate, and after death was found to be acid. The change appears to have been the effect of abstinence, inasmuch as in a similar experiment upon a healthy dog, analogous results were obtained.

London Lancet, Vol. 2, page 309.

VI. M. M. Becquerel and Rodier inform us that in most prolonged chronic diseases, especially in organic diseases of the heart, Bright's disease, chlorosis, paludal cachexia, hemorrhages, cancerous diathesis and the last periods of tubercalosis, also in cases of insufficient nourishment or air, and of continued humidity or want of light, the red particles are diminished in quantity. This diminution is shown especially by discoloration of the skin, dyspnœa, palpitation, systolic murmur at the base of the heart, and arterial and venous murmurs.

In the last stages of heart disease, great symptomatic anæmia, cancerous diathesis, and insufficient nourishment, the albumen is diminished. This diminution produces dropsy, and is the cause of most essential dropsies.

In chlorosis, the fibrine may be unchanged or augmented. In acute scurvy the blood may be unchanged, or there may be an increase of fibrine. In Bright's disease, the fibrine is not changed in the acute stage, and may be unchanged or diminished in the chronic. In chronic scurvy or the scorbutic condition symptomatic of some chronic diseases, especially of the heart, the fibrine is diminished. This diminution is shown by cutaneous and mucous hemorrhages.

In general, when the other constituents of the blood are diminished the water is augmented. In anæmia, symptomatic of great hemorrhages, excessive catamenia or bad food, the fibrine is unchanged, the albumen unchanged, or slightly diminished, the red particles and specific gravity are dimished and the water increased.

FAT.

London Lancet Vol. 2, page 308.

B. S. Schultze mentions as the probable sources of fat, 1st, fat previously existing in the food; 2d, non-nitrogenous, non-fatty food; 3d, nitrogenous food; and 4th, the other tissues of the body. Of the first three, which alone are physiological, the first must be unquestioned; the production of butyric acid from sugar and the formation by the bee of wax, (which is analogous to fat,) from honey, are mentioned as proofs of its production from the second source. The claim of the third class of snbstances to be considered a source of fat, rest upon certain experiments which he does not consider conclusive. He however supposes that in disease, but not in a state of health, albuminous, and other food containing nitrogen, can be changed to fat.

Respiration and cutaneous transpiration greatly influence the deposition of fat, it being inversely as their activity. The fat taken in with the food serves principally to support respiration. The influence of the kidneys, though it appears that they may sometimes separate fat, is far less than that of the lungs and skin. The liver also appears to seperate fat from the system, that substance having been found in the bile and fæces, and impairment of the functions of the liver sometimes tending to promote the deposition of fat. Schmidt and others supposed that the chyle never contained more than a normal quantity of fat. Schultze however thinks that the

quantity will vary with the nature of the food, and its excess may lead to disease.

He controverts the opinion of Reinhart, that granular cells are the result of retrogade metamorphosis.

MILK.

Chemist, N. S., Vol. 4, page 273.

M. M. Vernois and Alfred Becquerel, have analyzed human milk under a variety of circumstances. They find normal milk to be composed of water, 889.08 parts; sugar, 43.64; caseum and extractive matters, 39.34; butter, 26.66; and salt, 1.38: and its density to be 1032.67.

Except in extreme cases the age of the nurse does not appear to modify the density; the milk of a woman aged from 15 to 20 contained somewhat more solid matter than that of of one from 35 to 40. The milk of primiparous nurses approaches more nearly the mean than that of multiparous. In the collostral state the butter is considerably augmented. Advanced gestation increases the quantity of solid constituents. Menstruation diminishes the water and sugar, it augments the weight of the solid parts, especially of the caseum. Sparing diet increases too much the water. In feeble constitutions the milk is nearly normal; in the robust the solid parts are diminished.

In acute diseases the respiratory elements are diminished and the nutritive increased; in the chronic the reverse change occurs. In both there is a loss of water and density. The constitution of milk in acute and chronic disease is exhibited in the following table:

	Acute affections.	Chronic affections.
Water,	884.91	885.50
Solid parts,		
Sugar,	33.10	43.37
Caseum and extract'e matter,	50.40	37.06
Butter,	29.86	32.57
Salts, (by incineration)	1.73	1.50
	115.09	114.50
	1000.00	1000.00
Density,	1031.20	1031.47

In cases of pulmonary tubercles without diarrhœa, or emaciation, few changes are perceptible; if however these symptons be present, the weight of solid matter is greatly reduced, the loss being exclusively butter. In syphilis the butter is dimished and the salts and density greatly increased.

The proximate principles of the milk appear to be entirely independent one of another ; each being in its developement modified by peculiar influences.

URINE.

N. Y. Edition London Lancet, Vol. 1, page 455.

I. Dr. Martin Barry, has reported Liebig's method of determining the quantity of urea in urine, substituting graduated measures for weights. His test is pernitrate of mercury. It is necessary to obviate the influence of two substances always present in the secretion, phosphoric acid, which would give a precipitate with the test, and chlorine, which would form bichloride of mercury and thus prevent the precipitation of the urea. The acid is removed by baryta, and the action of the chlorine is compensated for by an equivalent of pernitrate of mercury, it being cautiously added until a precipitate begins to appear. A solution of the test, of known strength, is then added, from a graduated measure, just as long as precipitation occurs. Simple inspection of the measure shows how much of the test has been used, and from it the quantity of urea is easily calculated.

Chem. Gaz. Vol. 10, page 345.

II. Dr. W. Marcet, has discovered a method of isolating the urea of urine, and has been able by this process to obtain that principle in much larger quantities than usual.

He evaporates the fluid to dryness, dries the residue over sulphuric acid, and then subjects it to the action of boiling alcohol, adding this in small quantities and decanting each time before adding a fresh portion. By repeating this till the alcohol comes off colorless, he separates all the urea. He now pours a little sulphuric ether down the side of the vessel containing the solution, so as to avoid mixing the liquids. Immediately upon the ether reaching the alcoholic solution of urea a cloud is formed. He continues the addition until the precipitation ceases. In a few hours the precipitate disappears, and the sides and bottom of the vessel is found lined with beautiful crystals of urea. It is purified from a little adhering chloride of sodium by crystalization from water. He is led to conclude that the urea exists almost entirely uncombined in the urine ; and he has discovered in that secretion two new substances with acid reaction.

The etherial solution, after the deposition of the urea, is decanted, neutralized with baryta water, to prevent decomposition of the acids, and concentrated on a sand bath, the alcohol and ether having disappeared, the baryta salt is decomposed by sulphuric acid, the mixture is shaken with common

alcohol and filtered. The filtrate is an alcoholic solution of urea and the new substances with a very acid reaction. It is washed with water and either, and on standing gradually seperates into two layers; the upper is a rose colored ethereal solution of the acids; and the lower consists of water ,alcohol, sulphuric acid and urea. The ethereal acid solution is, washed repeatedly with dilute alcohol and then with wate r decanting after each washing. It is then exposed at common temperatures to the air; at the end of 24 hours there are found numerous small colorless crystals on a watery liquid, and an intensely rose colored resinous acid substance on the sides of the vessel.

These crystals strongly resemble hippuric acid, but when fused they diffuse an odour very different from that of hippuric acid, and without taking fire they become charred and finally disappear. This acid appears to be in union with some base in the urine, or, if free, to be decomposed by the heat necessary for concentration, as it cannot be obtained without the use of baryta and sulphuric acid.

The rose colored substance has a stronger acid reaction than the crystals. It is insoluble in water, but soluble in hot ether or hot alcohol. Heated on platinum, it diffuses an odour of burnt oil becomes charred and totally disappears. After 4 or 5 days it deposits crystals quite different from the other acid. It can be separated without the aid of sulphuric acid, and therefore appears to exist in a free state in the secretion.

Neither of these acids contain the least trace of sulphuric acid.

N. Y. Edit. Lond Lancet, Vol. 2, page 197.

III. Dr. Arthur Hassel has published some interesting remarks on the chemistry and pathology of urine. He rejects the opinion of Dumas, that the conversion of urea into carbonate ammonia, is owing to the mucus acting as a ferment. He thinks the cause of this change is now better understood.

The conversion of urea into carbonate of ammonia is promoted by the presence of alkalies and retarded by acids.— Urine, when voided, may be alkaline, neutral or acid. Urine that is alkaline when discharged may be so from fixed or volatile alkali, or both; and this may proceed from fixed alkali, or alkaline blood reacting upon the urea, while in the circulatory system. Out of the body this condition will greatly expedite the change of the urea; but a much more frequent cause is the presence of carbonate of ammonia, resulting from the decomposition of the mucus, which is in general the first change towards an alkaline condition in neutral urine.— Acidity and absence of heat retard the change; it also pro-

gresses more slowly if the animal matter be removed, by filtering. Urines that are acid when passed, undergo this change, with a rapidity inversely to their acidity and directly to the quantity of mucus. Some have continued acid for years. On these principles the modus operandi of acid remedies in alkaline states of the urine from constitutional causes, is readily explained, viz: they retard the conversion of the urea into carbonate of ammonia.

N. Y. Edit. Lond. Lancet, Vol. 2, page 38.

IV. Dr. Hassel has also given directions as to the mode of preserving for future microscopical investigations, the insoluble crystaline deposits of uric acid, urate of ammonia, phosphate of ammonia and magnesia, phosphate of lime, oxalate of lime and cystine. The supernatant fluid having been decanted, the sediment is put into a test glass and washed repeatedly with cold water till all the mucus and soluble salts are removed, it is then placed in cells of glass properly prepared and left to dry, the cover is then secured by a proper cement.

Sometimes after the other matters have been removed, the uric acid is covered and concealed by a cloudy sediment of urate of ammonia. To free it from this the supernatant liquid, except that containing the urate, is to be decanted, the residue transferred to a large test glass and heated over a spirit lamp; the heat causes the solution of urate of ammonia; all the liquid is then poured off, and the uric acid left to be washed as above.

N. Y. Edit. Lond. Lancet, Vol. 2, page 271.

V. Dr. G. W. Griffith, has carefully examined the ammonio magnesian phosphate formed in urine. Having prepared both the so called bibasic and neutral, by mixing solutions, as well as from urine, and analyzed the varieties, he concludes that their constitution is identical, and may be represented by the formula 2 MgO. NH_3. HO. PO_5. Their difference in appearance he thinks to be owing to the different circumstances under which they are crystalized. The stellate, feathery crystals result from the rapid crystallization in alkaline urine, the salt being much less soluble in a solution of ammonia than in water; while the prisms are formed much more slowly in healthy urine, the ammonia not being formed with sufficient rapidity to modify the process of crystallization. The penniform crystals are merely a modification of the stellate.

ALKALOIDS.

Ch. Gaz., Vol. 10, page 348.

I. Prof. Stass of Berlin, asserts that it is possible to detect any vegetable alkaloid, and to determine, if not the identity

of each, at least the family of vegetables to which it belongs.

He objects to the use of tribasic acetate of lead, and sulphuretted hydrogen, generally employed to separate foreign matter; because, the lead salt does by no means precipitate all foreign matter, and its presence renders the matter unfit to be tested for the presence of mineral substances; and sulphuretted hydrogen remains in combination with certain organic products, which then undergo great changes by contact with air; so animal liquids having been treated with these tests become rapidly colored on exposure to the air, even at a moderate temperature, and exhale a putrid odour which adheres to whatever is extracted from them. He therefore adopts a different method.

Suppose an alkaloid is sought for in the contents of the stomach or intestines; to them is added twice their weight of pure and very strong alcohol, and then, according to the quantity or nature of the suspected matter, from 10 to 30 grains of tartaric or oxalic acid (he prefers the former); the whole is next introduced into a flask and heated to 160° or 170°F; when completely cooled, it is filtered, the residue is washed with strong alcohol and the filtered liquid evaporated in vacuo, or in a strong current of air at a temperature not above 90°F. If after evaporation of the alcohol, the residue contain fatty or other insoluble matters, it is again filtered and washed, and the liquids evaporated nearly to dryness in vacuo, or under a bell jar over strong sulphuric acid. The residue is then exhausted with cold anhydrous alcohol, and the alcohol evaporated. The residue is now dissolved in the smallest possible quantity of water, and to the solution placed in a small test tube pure powdered bicarbonate of soda or potassa is added, little by little, till effervescence ceases; it is now agitated with 4 or 5 times its bulk of pure ether, and left to settle. When the ether is perfectly clear, it is decanted, and left in a very dry place to evaporate spontaneously.

If the alkaloid is looked for in the tissue of an organ, this is divided into very small fragments, and exhausted of every thing soluble by repeatedly moistening with strong alcohol and pressing. The liquid is to be treated as a mixture of fluid contents of the stomach and alcohol.

The further proceedings vary as the alkaloid supposed to be present is liquid and volatile, or solid and fixed. If it be a volatile, liquid a portion of the ether being evaporated from a capsule, small liquid striæ will remain and fall to the bottom. The heat of the hand will cause it to present the smell of a volatile alkali obscured by an animal odour. To the liquid 1

or 2 drams of a strong solution of caustic potash or soda is added and the mixture shaken. After sometime the ether is drawn off into a test tube, and the mixture exhausted by two or three washings with ether. Into the united etherial liquid is then poured one or two drams of water, acidulated with a fifth part of pure sulphuric acid; the mixture is agitated and left to settle, the ether poured off, and the acid liquid washed with a fresh portion of ether. The ether contains the animal matter and a very small proportion of sulphate of conine, if any has been present; but the greater part of this sulphate and all of the sulphates of ammonia, nicotine, aniline, quinaline, picoline, and petinine, these last being entirely insoluble in ether, are left. To this residue an aqueous and concentrated solution of potassa or soda is added, and the mixture shaken and exhausted with pure ether. By evaporation at the lowest possible temperature, almost all the ammonia passes off with the ether. The last traces of ammonia are speedily removed by being in vacuo over sulphuric acid. The nature of the alkaloid now left alone, is determined by the chemist.

If the alkaloid be solid and fixed, it may have been set free by the bicarbonate of soda or potassa; if it has not, a solution of caustic potassa or soda is added; whether it be disengaged by potassa, soda or the carbonate of ether, the liquid is exhausted by ether, upon the evaporation of which the alkaloid is left solid or as a milky colorless solution holding solid matters in suspension. If sufficiently pure it is crystallized by adding a little alcohol and allowing it to evaporate spontaneously, generally, however, it is necessary to pour on some water feebly acidulated with sulphuric acid and move it over the surface, and then gently decant it from the oily parts adhering to the sides of the vessel, wash the vessel with acidulated water, and evaporate all these acid liquids to three fourths in vacuo or over sulphuric acid. A concentrated solution of pure carbonate of potassa is added to the residue, and the whole is treated with absolute alcohol, by the evaporation of which the alkaloid is obtained in crystals.

Chem., N. S., Vol. 4, page 227.

II. M. G. B. Caventon would not rely on iodine, in poisoning by alkaloids, his experiments with it having failed. He doubts whether its reactions observed in aqueous solutions of vegeto alkalies would occur in the stomach; though he admits that iodine may diminish the chance of absortion. He prefers the infusion of nut galls; but as an excess of this would redissolve the precipitate, owing to the presence of a brown vegetable matter, which in that infusion accompanies

tannic acid, he relies upon pure tannic acid to which this objection does not apply.

SULPHURIC ACID.

Chem.. N. S., Vol. 4, page 234.

Professor Morin, of Rouen, recommends that in cases of suspected poisoning by sulphuric acid, the organic liquids under examination be mixed with pure alcohol to prevent their fermentation, which by producing ammonia would disguise the acid.

The precaution is good, but not for the reason assigned. It is desirable to prevent putrefaction because of the offensiveness of putrid matter; but the acid can be readily detected by the soluble salt of baryta in the presence of even an excess of ammonia.

ARSENIC.

N. Y. Edit. Lond. Lancet, Vol. 2, page 41.

Dr. Harry Rainy, in investigating the reliableness of Reinsch's test, came to the following results. One thousandth of a grain of arsenious acid will give a full steel color upon a square inch of copper, and upon two square inches the deposit is still distinct but yellow; and this is the utmost limit.

When one part of the acid is dissolved in 1,000,000 of water it is detected after 15 or 20 minutes boiling; when in 2,000,000 the deposit is far less distictly and much more slowly formed.

The rapidity with which the crust is formed is in a proportion direct to the quantity of arsenious and hydrochloric acids, and inverse to the surface of copper. A dilute solution becomes in time much less sensitive; so that at length no deposit can be obtained from a solution of one part in 50,000 or 20,000, owing to the gradual change to arsenic acid; which change takes place in all solutions, but less rapidly as they are more concentrated, and more readily if exposed to the air, especially if agitated. He supposes the agent effecting the change to be oxygen; but admits that it may be chlorine or nitrogen compounds, existing in the air. Nitrates and other compounds, eg. persalts of mercury, diminish the susceptibility by changing the arsenious to arsenic acid. The latter can also be detected by this test; but is 1000 times less sensitive than the former; it may be reduced to arsenious acid by the action of sulphurous acid prolonged for some time, occasionally two hours continuance is necessary. The sulphurous acid should then be boiled off before applying the test.

If the arsenious acid exceed one-fiftieth of a grain to a square inch of copper, the crust is apt to peal off and may be

lost. These scales never contain less than 65 per cent. of copper. When either these scales or copper foil coated with arsenic are heated in a test tube over a lamp, only about one-half of the arsenic sublimes as arsenious acid, the other half remains in the form of subarseniate with traces of subarsenite of copper mixed with oxide of copper in the former case, or in the latter partly as the same sub salts adhering to the foil and partly as a white stain on the glass. Its presence may be detected by boiling the residue with carbonate of potash, filtering, neutralizing with nitric acid, and adding solution of nitrate of silver, which will precipitate arseniate of silver.

I may here mention a property of arsenious acid observed by myself about seven years ago, and as far as I know, unnoticed by any other person, viz: that in contact with water it is volatilised at a temperature as low as 90° Fah. I have heated them with a variety of articles of food, and found that the acid could be readily detected in the condensed liquid; when the article was of a fatty nature there were appearances of the acid, but the experiments were less satisfactory than in other cases. It is desirable to ascertain what bodies, if any, will entirely prevent this volatilisation. Circumstances have prevented me pursuing the investigation as far as is desirable. I hope to be able to prosecute it this summer. I will add, however, that upon trying Reinsch's test a few days since, in a very hasty manner, I easily detected the acid in the distilled liquid. One practical inference at least can be drawn from this observation, viz: that when this poison is looked for, until a body may be discovered capable of entirely preventing its volatilization, any vapour that may be formed should be condensed and examined as well as the residue.

Fully conscious that many defects may be found in this paper, the number of journals to which I have had access being quite limited, and that some of the articles referred to may have appeared at an earlier period than the year just passed, not having seen all the original communications, I submit it to the consideration of the Society, hoping that it may, under your auspices, be the forerunner of a series of valuable reports on Medical Chemistry.

have produced more expanded views of the value of life and means for its preservation; a more thorough appreciation of the importance of purity in the principal sources of its continuance—*air and food;* more attention to the comforts of dwellings and clothings; greater energy in police regulations, and a better regulated state of public and private morals. The results in Geneva excited the emulation of other cities; and the governments of Prussia, and other German States, following her example, have instituted statistical societies, from which, from time to time, have emanated most valuable and interesting reports—forming a mass of indisputable facts, showing that the prosperous condition and permanent existence of a government depend upon the general intelligence and virtue of the people. It is believed that only two States in our Union—Massachusetts and Louisiana—have carried into systematic operation the registry law; in the former of which many important and useful results have already been realized.

Registration alone can determine, with accuracy, questions in relation to the duration of life—to diseases, and causes of death. Insurances on human life and health—now so common in the United States—are based almost entirely upon facts procured in foreign countries, which may vary essentially from those procured among ourselves: such tables are essential to determine questions often arising in determining the value of dower and life-estates. By establishing a system of registration, by which a thorough census of the living and the dead may be taken, and we shall soon have the means of constructing life-tables, which will show the probable expectation of life in any given section of the State, and would form an important source of information to all classes of the people.

The locality—the seasons—the number and density of the population, their circumstances as regards wealth, their occupations, sex and age, food, clothing, habits and manner of life, the moral influences brought to bear, and many other circumstances, may be regarded as influencing, favorably or unfavorably, the lives and health of the people; and these, if properly investigated, will place in our possession the means by which we can measure the force of mortality pressing upon a people.

Your committee have noticed with great pleasure, a movement recently made in the Legislature of Ohio, in relation to the enactment of a Registry Law, under the able advocacy of Dr. John L. Vattier, of Cincinnati, to whose eloquent remarks we are indebted for much of the preceding matter of this report. Foremost as our sister State has always been in

wise and beneficient legislation, it becomes us to follow the lead thus given, and by placing the subject, in all its important bearings upon the best interests of the community, before the profession and the public, endeavor to enlist in its behalf the legislative councils of our State. By adopting a systematic and uniform plan of registration and classification, accurate and specific in its details, reliable and trustworthy data would be furnished from different sections of the Union, and thus carry out the measure proposed and advocated by the National Medical Convention of May, 1847, and successfully reduced to practice by many of the States of Europe. Thus, in the language of the Fifth able Report of the Registration Society in England, "a comparison of the duration of successive generations in England, France, Prussia, Austria, Russia, America, and other States, would throw much light on the physical condition of their respective populations, and suggest to scientific and benevolent individuals, in every country, and to the governments, many ways of diminishing the sufferings, and meliorating the health and condition of the people: for the longer life of a nation denotes more than it does in an individual—a happier life—a life more exempt from sickness and infirmity—a life of greater energy and industry—of greater experience and wisdom. By these comparisons, a noble national emulation might be excited, and rival nations would read of sickness diminished, deformity banished, life saved—of victories over death and the grave—with as much enthusiasm, as of victories over each other's armies in the field: and the triumph of one would not be the humiliation of the other, for in this contention none would lose territory, or honor, or blood, but all would gain strength."

Under these considerations, your committee would respectfully recommend that, in order to bring this important subject into practical operation, Article 7 of the Constitution of this Society be so amended, that an additional clause, constituting a *Standing Committee* on Vital Statistics be inserted, and defining their duties, to whose supervision all communications relating to this subject be referred, and by whom a report of a Registry law, adapted to the wants and resources of the State, shall be prepared and presented at the next Annual Meeting of this Society.

REPORT

OF THE

COMMITTEE ON SURGERY.

MR. PRESIDENT :—The Committee on Surgery beg leave to make the following report. The duties of this Committee are not defined, and their unrestricted instructions make it difficult to determine upon the character of their report.

It is to be presumed there is nothing in Indiana Surgery entitling it to be regarded as especially beneficial and skillful; and to present its defects and errors alone would be a thankless and odious task. Until opportunities for acquiring a more thorough knowledge of anatomy shall be afforded or embraced, a number of our most respectable practitioners must feel all the embarrassment incident to the faithful discharge of intricate and responsible duties, with inadequate preparation. While the law keeps a more vigilant watch over our welfare after than before our death; while it imposes a prohibitory tariff upon the acquisition of essential qualifications, and offers a bounty upon ignorance, bad surgery will abouud—the public will be the subjects of it, and practitioners must in some degree be exonerated.

Not only ignorance, superstition, interest, perversity, and indifference, plant each of them a hindrance in the way of those striving to advance in this branch of the profession; but sectarianism in religion, and partizanship in politics, are frequently enlisted in strenuous endeavors to the same end. Thus discouraged, many an ardent student abandons the pursuit, and relinquishes the hope of reaching the goal which lodges the aspirations of his youth.

A steamboat explodes, or a car becomes wrecked, in the impetuous hurry of life, and scores are precipitated out of the world at once; coroners are summoned, juries empannelled, attestations elicited, and true rendition made of the causes of death; thereupon prosecutors become zealous, courts quicken their pace, the press drives its scorpion lash, pulpits resound with reprobation, and threatening resolves embody public in-

dignation, and the wretch who occasioned the disaster is hunted from among the living.

But let the miscreant change his means, and steal access to his victims by the noiseless pace of imposture, and, one by one, he may invest his scores in their winding-sheet, unbeset by coroners and juries, courts, prosecutors or witnesses, pulpit reprobation, indignant resolves, or exasperated press. Cheap—painfully cheap—is human life, when not extinguished in a terrible crash that breaks stunning upon the public ear: the car of Juggernaut must not creak or suffer its victim's cry to go abroad, and the slumbering public will endure its executions with patient resignation.

We doubt whether public folly could be carried further in this direction than it is at present, when progress has superseded both sense and science; but whether this Society can adopt measures to hasten a revulsion of public sentiment, which may lead to more sound legislation on the subject of medical education, it is not the province of this committee to inquire.

Governed by these considerations, and the practice of some other State Societies, the committee would submit some cases of Surgery, which have been submitted to them for that purpose, as part of this report, with the belief that they will afford more interest and instruction than any thing they could offer. It is desirable to make a selection of those presenting original and striking features, or something novel and practical in the treatment; but the cases in the hands of the committee do not admit of rigid scrutiny in these particulars. It may become advisable for the Committee on Publication to reject a part of these cases, should they be found to swell our proceedings to an undesirable extent.

J. S. BOBBS,
GEO. SUTTON,
M. BRAY.

CASE I.—CYSTOID TUMOR BENEATH THE CLAVICLE: ITS REMOVAL FOLLOWED BY CAPILLARY HEMORRHAGE AND DEATH.—*By J. S. Bobbs, Indianapolis.*—The following case presents some points of interest: Firstly, it illustrates the difficulty of controlling capillary hemorrhage, especially from parts where resort to the most reliable agents is hazardous or impracticable.

Secondly, it enforces the propriety of delay in closing wounds, where hemorrhage, although apprehended, does not occur during an operation executed while the patient is under the influence of an anæsthesia.

Thirdly, a careful inspection of the tumor, at the time, show that the hemorrhage did not proceed from a portion of it left in the wound, and this is still demonstrable in its present state of preservation.

Fourthly, the profuseness of the discharge, and the alarming impression speedily made upon the patient, precluded a reliance upon more gentle means for its suppression, and its proximity to the heart and large arteries, enforced distrust of their adequacy.

Fifthly, it suggests the question as to whether death ensued from the operation itself, from the hemorrhage, or from some other coincident cause. Recovery from the first seemed to be speedy and satisfactory; also the reaction following the hemorrhage was complete. That it did not ensue from absorption of pus, I infer from its speedy supervention after the operation, and from the absence of all inflammatory indications in or near the wound; nor from inflammation of the veins, because there is no continuity between those situated in the vicinity of the wound, and those where the pathological condition seemed to be seated. We incline to the opinion that some latent disease, or abnormal growth, situated in the abdomen, was provoked to assume an active inflammatory state, from the shock of the operation and the recurrent force added by the subsequent hemorrhage.

Mrs. R. C., Henry county, Indiana, aged 29, requested my advice February, 1853, for a tumor on the right side of the neck. It is situated upon the inferior part of the neck, extending from the clavicle upwards four inches, and from the centre of the trachea outward three and a half inches. It lies under the platysma and the sterno-mastoideus muscles, and dips down under the clavicle, but how far cannot be ascertained. It is carried upward and downward with the effort of swallowing, and seems to have intimate attachments to the parts upon which it is planted, but less with those covering its outer surface. To the feel it is partially lobulated, solid, pretty uniform on the surface, and on its anterior segment well defined; its other outlines are obscured by the thickness of the parts covering it. The external jugular vein course over it.

This tumor first made its appearance about thirteen years ago, above the clavicle, and at the side of the neck; was freely movable in all directions; increased very slowly for the first several years; inflicted little pain, and give rise to slight inconvenience; subsequently it became more painful, and within the last three years has occasioned more or less difficulty of breathing. This has greatly increased during the

last six weeks—is never entirely absent, but is much aggravated at times. She has always been subject to headache, but lately this has been confined to the left side of the head, and has been less frequent but more severe in its attacks. There is almost constant dizziness, with a disagreeable roaring in the head, both of which are increasing. She has weakness of the right shoulder and arm, and tremor after having used them. Tumor is tender on pressure, but presents no marked characteristics of malignancy.

The patient has never enjoyed very good health; but regards her present state of health as quite as good as usual. Has had the advice of a number of physicians, and undergone a variety of treatment to remove the tumor, but without effect; and the pain and inconvenience arising from it being on the increase, apprehension of its ultimate results preys upon her mind, and operates unfavorably upon her general health. Complexion rather sallow; reduced in flesh; but a protracted inquiry into her present condition elicited no marked faulty or defective action in any of the obvious functions of the body. Her expression, however, indicated solicitude, and a fixed departure from that of health and comfort. She has been subject to frequent biliary disorder; and, for one cause or another, has been a liberal patronizer of the Materia Medica during the most of her life-time. Not having been under the charge of a physician willing to undertake the removal of the tumor, when it was smaller and less troublesome, she seems desirous of representing her present health in a favorable light, probably for fear I should decline to undertake the excision of her source of trouble. She is the mother of two children, and the catamenial functions are natural.

Dipping beneath the clavicle, and overridden by the sterno-mastoid muscle, the tumor found least resistance in the direction of the trachea and the chest; and the prominent symptoms are traceable to its compression of the parts in this vicinity. These are becoming progressively more distressing; and when the circulation of the parts are full or hurried, the tumor swells and greatly aggravates them. Both her husband and herself believe the tumor is growing more rapidly than at any former period, which is rendered more probable from the aggravation of the symptoms lately. It seems manifest that any sensible enlargement of the growth within the restricted limits of the space to which it is confined, must give rise to very urgent symptoms, if not to fatal results. Besides, the recent changes in its sensibility; its fleshy and elastic feel; its great vascularity, as evinced by its variable size under op-

posite conditions of the circulation—coupled with the marked languor of all the functions of the body, the atrophied skin, and fixed angular features, render it probable that degeneration would soon supervene, if it had not already commenced. In any light in which its probable progress can be viewed, a painful future seems inevitable, and a premature death highly probable to this poor woman.

All these difficulties were very obtrusive in attempting to decide on the course proper to recommend in the case. They were presented to both the patient and her husband, in juxtaposition with the great hazard to be incurred in the attempt to remove the mass. This might prove suddenly fatal; but, if successful, would probably be permanently so. The patient decided at once to incur the hazard; but, at my instance, revised her decision for more deliberate and mature consideration. I also recommended her to consult some other physicians, which she thought unnecessary. The following day the husband called again, to say his wife had made up her mind to undergo the operation—he having deferred the decision to herself, and requested me to undertake it. To correct any misapprehension which might have arisen from what had passed, I repeated the dangers to be apprehended in the undertaking; to which he replied she had dwelt upon them all last night, and had resolved to undergo them. Indeed we have never witnessed a more striking instance of moral courage, than the patient exhibited from first to last: concern for herself was wholly lost in solicitude for her husband and children —from the latter of whom she had parted with the presentiment that it was her last maternal caress.

After devoting a week to preparing her for the operation, assisted by Drs. Gall, Todd, and Funkhouser, in the presence of several students and other spectators, we proceeded to the operation on the 2d of February, 1853. With intense, but subdued feelings, she seated herself on the operating-chair, made an earnest appeal to the father of her children to train them up watchful of their welfare, and was soon under the influence of chloroform.

An incision was carried from the upper limits of the tumor to the clavicle, the jugular vein being held out of the way. The lower extremity of the incision approached the sternum, from which a cross section was made, and the sterno-mastoid muscle separated from its origin. This allowed access to the tumor above the clavicle, and it was severed from its attachments, except at the base. The mass projected about two inches downwards and backwards from the clavicle. The whole was cautiously dislodged, and finally detached from its

deepest attachments, which were the most intimate, and the most difficult to trace. It seemed to be planted upon the longus colli muscle and the cervical column, and from or through these it derived its chief supply of blood. This became very obvious upon examination of the tumor after its removal, which shows its attachments to the cervical column to have been very intimate, presenting appearances analogous to those of the base of a chestnut, where it has been planted in its bur—the balance of its outline being smooth and encysted. The membranous investments of the large vessels were not opened; not over three ounces of blood were lost; and the patient soon recovered from the effects of the chloroform. The operation occupied about twenty minutes.

We left the wound exposed for some time before dressing, in the expectation that there would be more hemorrhage, which, however, did not occur. The wound was closed in the usual way by sutures and plasters, and a compress lightly confined with a roller, and the patient placed in bed, with injunctions to be as quiet as possible. But she seemed excited from the chloroform, and persisted in talking and turning her head from side to side, against all remonstrance. Apprehending her restless manner would provoke bleeding as reaction become more developed, I remained with her several hours. Exudation of arterial blood began to be observed from the lips of the wound; but as she began to be more composed, from the influence of an anodyne, this abated, and no interference seemed called for, and I left her in charge of a couple of students.

About 8 o'clock, P. M., was summoned to see her, as she had become more restless again, and the bleeding had increased. Found some trickling from the wound, which was partially distended from coagula. Passed several needles through opposite lips of the wound, and threw ligatures around them, in hopes the resistance would arrest the further discharge of blood, as it was obvious no considerable vessel was bleeding. Some further delay show the distension to be slowly but manifestly increasing. No perceptible effect on the pulse could be detected; but the accumulation of coagula interfered with respiration and swallowing, and thus prolonged the restlessness of the patient. The ligatures were all removed, the clots turned out of the wound, which was cleanly sponged in order to reach the part from which blood issued. Welling up from a defined space in the bottom of the wound, where the tumor had its most intimate incorporation with the normal tissues, was a free discharge of scarlet colored blood, but no jet nor venous bleeding could be detected. Except in the

early stage of the dissection, no artery had sprung, up to the present, and that one ceased after some compression. By means of artery forceps and tenacula, ligatures were thrown around several points from which blood seemed to issue more rapidly than others; sometimes with temporary effect in restraining the discharge, at other times with none at all. Steadily directed compression with a sponge retarded, but did not arrest the discharge. Stick caustic was then freely run over the parts without effect; when a saturated solution was applied through dossils of lint, with very inappreciable influence at controlling the discharge. Muriated tincture of iron was applied freely in the same manner, with no sensibly beneficial effect. A fine soft sponge was then cut in small pieces, the wound cleared of all removable matters, and these, holding muriated tincture of iron, were compactly disposed along the bleeding surface; other pieces placed over these; and the whole held firmly in situ, with the fingers of one hand ranged over them. More than an hour was consumed in these various appliances, during which the circulation began to flag, the patient to blanch, and a speedy issue to the case seemed imminent. The radial artery could still be traced; and keeping her head low, and the free use of stimulants, prevented her from fainting. She also became more controllable. Thinking it probable I might find it advisable to ligate the common carotid, I had, before making the last application, exposed its cellular sheath, intending to open it if this attempt should fail to arrest the flow of blood. The vertebral artery usually selects the sixth cervical vertibra to enter its bony canal, and is sparing in its distribution of branches outwardly, on its way to the brain. In this case we feel assured it was the chief source of supply to the bleeding parts, both from its proximity to them, and their remoteness from other probable sources of supply. A space extending from the proximate sides of the bodies of the vertebra, to the anterior tubercles of their respective transverse processes, and from the third to the sixth inclusive, would include the whole space from which the capillary exudation issued; and only from the upper half of this was it copious or uncontrollable. Observing a central direction in passing beneath the bleeding disc, in no part of its course here could it have been more than three-fourths of an inch distant, and at some points nearer. It therefore remained improbable that arresting the flow through the common carotid would have cut off the supply from the exuding surface. Still it might be necessary to verify whether it participated in providing for the flow. The last application proved effectual, and no further loss of blood ensued. I availed myself of the valuable

counsel and assistance of Dr. Gall, early in the case, and we relieved one another alternate hours during the night, in keeping up maintained pressure upon the parts through the intervention of the sponges. Except being harrassed with distressing thirst, no complaint was made, and she slept composedly at intervals during the night. The circulation was progressively restored, being soft, moderately full, and about one hundred to the minute in the morning. The sponges were retained by adhesive plaster, and during the day nothing unusual occurred, the patient being inclined to sleep, was less troubled with thirst, and took some refreshment. In the evening the urine was drawn off by the catheter, voluntary efforts at evacuation having failed. Circulation somewhat accelerated; skin natural; tongue moist; wound felt sore in attempting to swallow.

4th Morning.—Had rested pretty well during the night, but was somewhat annoyed with a pain in the left iliac region, which she attributed to laying on her back. Stated she had not been able to lie on her back for several years in consequence of this pain. When I drew her attention to the circumstance that she had said nothing about it before, she replied it had not occurred to her. Otherwise pulse soft, moderately full and frequent; skin warm; tongue moist; no change in the appearance of the wound. More wakeful, and manner more cheerful. Urine drawn off. Hot fomentations to left iliac region.

Noon.—Had a sensible chill about ten o'clock. Skin hot; face flushed; pulse frequent; and severe pain in the left side, above and inside of the hip bone, which was very tender on pressure. Large mustard plaster to be applied to the abdomen.

Evening.—Complained much of her side; abdomen slightly tumid; tenderness becoming more diffused, but more acute over left side.

It were tedious to detail the treatment, which consisted of mercurials, anodynes, blisters, fomentations, &c. The case presented the features of child-bed fever, and with the necessary precedents, would have been regarded as presenting nothing anomalous.

5th Morning.—Pain, tenderness, and fullness of abdomen increased, but remains more distinctly marked in the left side; pulse about 130; skin hot; tongue coated During the day the skin relaxed, pulse increased in frequency, prostration became marked, and she expired the early part of the evening, with symptoms which I could not discriminate from those which indicate effusion, and precede death in puerperal fever. Although medicines seemed to act favorably, tonics and stim-

ulants diligently administered but slightly influenced the circulation, probably from deficient absorption.

During the last thirty-six hours, the wound engaged but little of our attention. The adhesive straps were removed, with such of the pieces of sponge as had become detached from the contiguous parts. A slight, bloody, serous discharge issued from the dependent angle of the wound. The parts were black where the tincture of iron had been in contact with them; but no swelling or other unusual appearance was to be observed. Except some stiffness and soreness upon efforts at swallowing, no complaint was ever made of the parts about the wound. She continued to swallow until a short time before her death. Enquiry, provoked by the unlooked-for direction of the difficulty supervening in the case, elicited that she had frequently complained of pain in the left iliac region, and upon several previous occasions it had been very severe. Position on the back, for any considerable period at a time, would always bring it on; but change of position would not always remove it. Any other posture was very inconvenient to the patient during her present illness; and changing it did not seem to have any lasting effect in mitigating the pain in the side.

A post mortem was tendered us in the case by the husband; but our indifferent health, and other engagements, compelled us reluctantly to relinquish the opportunity, which remains a source of regret.

A section of the tumor shew a conformation nearly similar to that of the placenta, with a brighter fleshy color, highly vascular, and interspersed with numerous cysts, from the smallest size up to that of a small marble. These were filled with a serous fluid, more or less colored. Their walls were thick, and resisting in the larger ones; their surfaces smooth and glossy.

Case II.—Strangulated Hernia.—*By J. S. Bobbs, Indianapolis.*—The following case presents a fortunate escape from the duplicate hazards of a serious operation, the second one, at the age of sixty-five. It also shows the mitigated danger of the operation for strangulated hernia, when performed before decided local inflammatory action has come to embarrass the prognosis. A thorough trial early instituted of the means best calculated to reduce the strictured parts, in a large majority, if not all cases, should authorize the operation at once, instead of the delay which waits to be prompted by

the supervention of symptoms that are dangerous in the degree they become urgent.

Late in the night, January 20th, 1852, received a telegraphic despatch to take the cars the following morning, prepared to operate for strangulated hernia on C—— C——t, four miles from Franklin, Johnson county, Ind. Arrived there at nine o'clock, A. M., the 21st, and found the patient in charge of Dr. Cooper, his family physician, who furnished the following history of the case up to that time:

Having occasion to rise during the night on the 19th, he was seized with a severe paroxysm of coughing, when he felt something give way in his right groin, where he had a reducible hernia of many years standing. He understood it to be occasioned by additional protrusion of the parts, and made attempts at reducing them, but without success. Dr. Cooper being sent for, made an unsuccessful effort at reduction. The patient complained of soreness of the parts, and some sickness of the stomach. Was bled, and the infusion of tobacco thrown into the bowel, which produced increased sickness and considerable constitutional impression—when renewed attempts to reduce the parts failed as before. Cathartics and injections were given during the day, without producing any evacuation; and, in anticipation of my arrival the next morning, nothing further was attempted during the night.

The patient was sixty-five years of age; had led an active life in superintending a farm and grist mill; had generally been healthy; but for several years had been troubled with a cough during the winter season, and the present one had been more infirm than usual. About two weeks previously his cough had become much aggravated, which he charged to the great severity of the weather, and which continued to be intensely cold. A tumor protruded from the right groin the size of a hen's egg, presenting the feel of omental hernia, tense, resisting and sensitive to pressure. No discoloration of the surface. It appeared to have descended through the oblique canal; and its neck was firmly grasped by the parts beneath the skin. From this part an obvious fullness was to be observed in the direction of the canal, but without its having any well defined boundary. Some fullness of the abdomen was present, but little tenderness except in the tumor itself. The patient had taken but little into the stomach, which was fretful, and there was occasional vomiting. Pulse was increased some in frequency, but yielded little resistance; tongue clammy; skin warm; cough frequent and harassing. Bowels had acted once soon after the accident. In the left groin was a large unsightly scar.

Twenty-three years before, the patient resided in the State of Kentucky, and had suffered protrusion on that side, which became strangulated, and he had undergone an operation for relief. The operation had occupied four hours, and fæces were discharged from the wound: circumstances which he was disposed to charge to the incompetency of his two physicians, who, he alleges, conducted the operation under the direction of a student that had just returned from college. Posted in the topography of the parts, this young gentleman subsequently entered a protest against the extensiveness of the dissections, the protractedness of their progress, and the unskillful opening into the bowel; in all which the patient concurred in opinion.

After a prolonged illness, during which he suffered greatly, and passed his fæces by this artificial outlet, the orifice gradually closed of its own accord, and the evacuations resumed their natural channel. The scar attested the extensive mutilation of soft parts that had occurred, whether from explorative surgery or pathological causes.

The urgency of the symptoms not precluding further attempts at reduction of the parts without operative measures, bladders containing ice were applied to the tumor, in the hopes of reducing its volume. Calomel and opium, in small portions at intervals, was administered during the day, followed by an injection of the infusion of tobacco towards evening, so as to make a more decisive impression on the patient than that previously administered had done. Although the relaxation produced by the latter was very marked, the protrusion resisted all our efforts to return it into the abdomen.

Convinced that nothing else would succeed, the patient at once consented to the operation; and an anodyne was given to relieve the sickness and exhaustion produced by the tobacco. Chloroform was proposed to be administered, but the patient replied, if the operation would not exceed four hours, he could stand it without.

Just before sunset, he was placed upon a table, with his extremities suspended over its edge; and, assisted by Drs. Cooper, Ritchey and Thomas, I proceeded to operate in the usual way. Upon reaching the tissues, immediately exterior to the sack, they were found thickened, indurated and confounded together, from former adhesions of the omentum to the anterior walls of the sack. Passing through these, the sack was opened, the stricture reached and divided, and the knuckle of intestine being found healthy, returned into the abdomen. Upon passing the finger through the wound, the parts adjacent to the sack were found to be rough, granular,

and unyielding. The tissues had lost their natural outline, and become hypertrophied. The long standing protrusion had brought the internal ring near the external one, and the omentum having constituted a permanent portion of the parts extruded, formed an additional covering to the recent protrusion. The stricture was found above, and deeper than the external ring, and seemed to be constituted in part of this adherent portion of omentum. The fullness which had been remarked in the direction of the oblique canal, and the hard constricted portion of the external neck of the tumor. were owing to the same cause. The patient was placed in bed, with directions to have an anodyne if he failed to rest without.

22d, morning.—The patient had a comfortable night. Some soreness about the wound. Tongue moist; pulse soft and full; cough harassing. Left him at ten in charge of Dr. Cooper, with request to keep his cough appeased as much as practicable; to give no cathartic, but allow the bowels to resume action themselves; and to telegraph me in case any unfavorable change should supervene. Nothing requiring to be recorded occurred in the progress of the case; and the patient was up in two weeks, and walked about in three.

Case III.—Encysted Tumor.—*By J. S. Bobbs, Indianapolis.* This case presents nothing peculiar. It is meant to indicate our preference in the choice of means to rid patients of encysted tumors; which is to enucleate them at once, instead of eviscerating them, and then depend upon suppuration to destroy their cysts. We regard this as the speediest, least hazardous and painful procedure.

Henry Burner, of Crawford county, Ill., was presented by his father, accompanied by Dr. Cullers, his family physician, with an encysted tumor on the left side of the neck, below the ear. The patient was 17 years of age. The tumor was the growth of two years; for the last six months it had grown more rapidly. It measured 3½ inches in a perpendicular direction, 3 inches from behind forward, and 4 inches in its longest direction, which was forwards and downwards. Its anterior margin was deeply planted under the ramus of the lower jaw; its superior margin was overridden by the parotid gland; and its posterior, throughout its whole extent, covered by the sterno-cleido-mastoideus muscle. The whole was bound down by the platysma muscle and the superficial fascia, so as to make it difficult to trace the outlines of the tumor, except at its lower and anterior margins, where it es-

caped from the restraint of the jaw in front, and from the long muscle of the neck behind, and projected opposite to, and in contact with, the pharynx. Introducing the finger into the pharynx, and pressing alternately inward and outward, and with the other hand on its exterior, shew its coverings to be thinner toward the pharynx than toward the cutis.—Hitherto it had not been accompanied with pain, and with little inconvenience; but its rapid growth rendered it probable that it must soon become troublesome, from compression on the larynx and large blood-vessels and nerves, upon which it reposed, unless some means of restraining its growth could be devised, or it were removed.

It had been the subject of medical treatment by a number of physicians. They had employed iodine, compression, &c., without any obvious benefit; and as we have never known any mode of treatment avail in reducing these products, we at once advised its removal by the knife, in which opinion his accompanying physician concurred, and to which the father and the patient at once assented.

On the 23d of February, 1853, the day succeeding his arrival here, I proceeded to remove it, assisted by several other physicians, among whom was Dr. Cullers. There were also several students, and others, present. Probably from the restraint imposed upon the tumor by the parts laying exterior to it, its attachments to the parts beneath its base were more intimate than are usually found in this character of tumor. It was, however, removed in about ten minutes. About one inch and a half of the common carotid, and as much of its internal and external bifurcation, were seen bare and throbbing in the bottom of the wound, and the loop of the hypoglossal nerve curved round its upper third. The par vagum was not brought into view, being shielded by the carotid and by the jugular vein. A lymphatic gland was found interposed between the tumor and the larynx, and was subsequently removed, least it should interfere with the ready consolidation of the parts.

No hemorrhage followed. The patient was under the influence of chloroform during the operation. The greater portion of the wound healed by the first intention; and he left for home, with his physician, in about a week after the operation, travelling by the cars.

Case 1.—Injury of the Brain.—*By Dr. Harding, Lawrenceburgh.*—I was called, Sept. 6, 1846, to see G. D., aged

13 years, who had about six hours before received a severe injury of the head, by an ax in the hands of a laborer who was hewing timber. The ax flying from the handle, which was left in the hands of the laborer, and striking the boy, who was playing at some 15 or 20 feet distance, at the union of the parietal and temporal bones. The whole bit of the ax, which was about four inches wide, passing directly through the cranium, the dura, and pia mater, and a considerable distance into the substance of the brain, a portion of which had escaped through the frightful incision made into its coverings. There was so much separation of the temporal bone from its natural position, that the ear of the injured side actually stood off at an angle of 45 degrees, instead of occupying a nearly vertical position. The appearance of the widely gaping wound, through which the brain and its immediate coverings were exposed, through an incision three inches in length in its narrowest part, with the arteries of the dura mater pulsating beneath the eye, presented altogether rather an unpromising case. The boy had been stunned and rendered insensible for a short time after the receipt of the injury, but gradually recovered consciousness, interrupted by occasional convulsive movements. Previous to my seeing him, Dr. A. Eldridge had been called in, who, on examining the wound, discovered that a fragment of the internal table had been deepened, and was making pressure upon the substance of the brain, which was very properly elevated to its former position, when the convulsive movements ceased, and the boy returned to perfect consciousness. The wound was cleaned from coagula and broken-down cerebral matter; the separated bones approximated by a compress and bandage; the patient placed in bed, with head and shoulders elevated; quiet, and rice water, toast, tea, &c., were enjoined, under the expectation of the supervention of inflammation of the brain in the course of the next 36 or 48 hours. Not an untoward symptom, however, occurred during the whole subsequent history of the case. The wound had healed, and a bony union perfectly effected in the course of the next eight weeks, without any sensible effect on, or deterioration of, the mental powers.

This case is of little interest otherwise than in illustrating the fact, that we may have extensive injury of the brain and its coverings, with actual loss of cerebral matter to the extent of an ounce or more, with so little disturbance of the general system, and without impairing or affecting in any sensible degree the integrity of the mental operations. As above remarked, this injury was made by a clean, sharp-edged instrument. Scarcely fracturing or injuring the bones or soft parts,

beyond the immediate extent of the wound—it indicates the safety and propriety of an early resort to operations on the brain for the relief of certain forms of epilepsy, hydrocephalus, or apoplexy, when the seat of the lesion can with any considerable degree of certainty be determined upon.

Case II.—Compound Fracture of the Thigh.—*By Dr. Harding, Lawrenceburgh.*—I was called, July 30, 1852, to see John Greene (a laborer on the L. & Ind. R. R.,) aged 20 years, for a compound fracture of the thigh, occasioned by a loaded gravel car, weighing not less than five tons, passing over the lower third of the thigh, in rather an oblique direction from above downward, while the limb was laying across the track, formed of heavy T rail. I found on examination of the limb, extensive laceration of the soft parts, commencing at a point on the anterior part of the thigh about three inches above the articulation of the knee, and extending about four inches up the limb, with a counter opening in the popliteal space about two inches in extent, approximating still more nearly the articulation of the knee. The points of the fingers placed on opposite sides of the limb, readily came in contact, at a point represented by the shaft of the bone, which was found to be very much comminuted. The two principal fragments—the upper and lower—had very oblique faces; that of the upper one looking inward, and extending to the vicinity of the condyle of the femur; the lower one being equally oblique, and looking in the opposite direction, and broken into several fragments. The principal vessels of the limb had sustained but little injury. Notwithstanding the extensive injury of the soft parts, and the comminuted condition of the bone, the limb being very muscular and well developed, the lateral portions of it were in a tolerable state of integrity.

Unwilling to assume the responsibility of making an effort to save the limb without advice, at a season of the year so unfavorable to the treatment of extensive lacerated wounds, Drs. Brower and Ewing were called in for professional advice. On a more careful examination of the injury, and in view of the hot season of the year, the extensive injury of the soft parts, together with the comminuted state of the bone, and the proximity of the injury to the knee joint, we were unanimous in advising the amputation of the limb, as the only probable, if not the only possible, means of saving the patient. The patient and his friends obstinately and peremptorily refused to submit to the amputation of the limb. Some six or eight

hours later, the case was seen by my partner, Dr. W. Lute, and Dr. Geo. Sutton, of Aurora, whose professional advice had been desired. Drs. Brower and Ewing not being present when another examination of the injury was had, which resulted in the opinion, that the comminution of the bone was not so great as had been apprehended at the former examination, which enhanced the probability of success in an effort to save the limb—a duty that was imperative upon us, as the patient utterly refused to submit to an operation for any consideration whatever—not even to save his life. In justice to ourselves, however, it is proper to state, that at this last examination, I was of the opinion, which was fully corroborated by Drs. Sutton and Lute, that an effort to save the limb was not necessarily hazardous; that if it became absolutely necessary to sacrifice the limb, by watching it closely it might be attended to sufficiently early, to escape the dangers of threatened gangrene or mortification. An anodyne was administered, the limb placed in an easy position, enveloped in cloths kept constantly saturated in cold water, and left until the next morning; when the limb was permanently adjusted and dressed, by the application of a modified form of Desault's splint, manufactured by Day & Co., of Columbus, Ohio. And I cannot suffer this opportunity to pass without expressing my high estimate of the value and adaptation of the splints they manufacture to the treatment of almost every variety of fracture, and especially the one referred to above, in the treatment of fractures of the neck or shaft of the thigh bone. The shock sustained by the nervous system, by the injury, was manifested by nausea and occasional vomiting, cold skin, small and compressable pulse, for the first four or five days—a condition that was counteracted by the free use of wine and opium. There being a considerable oozing of blood from the wound, and the weather extremely hot, notwithstanding that cold water, and spirits and water, were unceasingly applied to the injured part, the flies succeeded in making a lodgment of their larvæ in the wound and the envelops of the limb, to such an extent as to render the utmost vigilance necessary to dispossess them for several days in succession. It is unnecessary to detail the course of treatment, from day to day, in the case; but it is sufficient to say, that through the recuperative energies of a young and vigorous constitution, unimpaired by habits of intemperance, and the entire control we possessed over the motions of the limb, through the admirable splint above referred to, with proper constitutional treatment, the patient went on to uninterrupted convalescence. So that within sixty days from the receipt of the injury, he was able to walk with the

aid of a stick, with no other deformity than an almost imperceptible shortening, and a partial inability to flex the leg upon the thigh, in consequence of the deposition of colus along the course of the flexer tendons; but has at this date (April 22d) recovered almost entirely from the effects of the injury.

The above case is one, I believe, in which nineteen surgeons out of twenty would have advised immediate amputation; and is principally interesting on account of the additional evidence it furnishes of the capacity of a good constitution, aided by the judicious interference of the surgeon, to overcome severe organic lesions; and is another plea for recuperative rather than destructive surgery, as well as furnishing almost a solitary example of a loaded car passing over a limb on the track without loss of the member exposed to so trying an ordeal.

Case 1.—Fibrous Tumor successfully removed.—*By Prof. Bray, Evansville.*—I was requested to visit Mr. Simpson, who resided in the county of Dubois, Ind., by the politeness of J. K. Tillman, practising physician in Gentriesville. Mr. Simpson had a large fibrous tumor, situated upon his face and neck, which had been gradually and slowly increasing in size for the last twenty years. He had naturally a good constitution, and his health, until recently, had been uniformily good; it had not suffered from the organization and growth of the tumor until recently—within the last twelve months. He was by occupation a farmer, and supported a small family by the labor of his own hands; he had a sandy complexion, and his age was about 38. It was discovered when quite small, not larger than a common sized pea, situated just beneath the skin, felt soft and was movable. From its primitive situation in the cheek, just anterior to the angle of the inferior maxillary, as it grew and increased in size, it extended equally in every direction, until it measured three feet and two inches in circumference. Its base occupied the greater portion of the face, head, and neck of the left side. It was bounded by the angle of the mouth and nose to the malar bone, along the zygoma under the ear, which was raised to the mastoid process, thence down the posterior border of the neck to the scapular extremity of the clavicle, thence along this bone to its sternal extremity, and from this place to the chin or place of beginning. It was firmly connected by thick, tough, and white fibrinous bands to all of the prominent portions of bones of

the face and neck; they ramified the tumor in different ways, and divided it into several lobes, which differed in density, some being quite hard and others soft and elastic.

The integuments which covered it looked purple in places, and thin, as if it was stretched, and large turtuous veins could be seen beneath the skin. It rested on the shoulder and breast of the patient, and in several places had began to ulcerate. The ulcers were large and inflamed; they discharged a sanious secretion, which emitted a disagreeable and unpleasant fetor. From their constant irritation, they caused sympathetic fever, with regular exacerbations, which terminated by free perspiration. He had suffered from this hectic fever for several months, which had impaired the appetite, caused emaciation and loss of strength; his sleep had been disturbed, and his countenance was pale and expressive of anxiety.

He had been prepared for an operation by the cautious administration of such remedial agents as was calcalated to unlock the secretions, restore the appetite, and to increase the strength, previous to my visit, by Dr. Tilman, who rendered me valuable assistance. Every preparation being made, the patient was placed on a hard straw bed, with his head and shoulders partially raised. A lunar incision on the anterior side of the tumor was made through the skin, from the centre of the base of the tumor above, to a similar point below, and dissected off; a similar dissection was made on the posterior side, so that the two flaps would cover the wound after it was extirpated. After the formation of the flaps, the dissection was continued on both sides from above downwards, until it was removed. While making this dissection, a number of thick and tough fibrinous bands, which were well supplied with blood-vessels, were divided, and the hemorrhage was so great, that the patient became weak and faint during the latter stage of the operation, and the pulse was not perceptible at the wrist. Every precaution was taken to prevent the loss of blood, such as pressure, tortion, and the ligature; not less than sixteen arteries were ligated, and this was a difficult part of the operation, for the reason that they lie so deep, those situated near the centre of the tumor. The strength of the patient was sustained by the liberal administration of stimulants during the operation, which lasted about one hour. Several cervical lymphatic glands were removed, which were attached to the base of the tumor; they were enlarged and indurated.

Immediately after it was extirpated, it was weighed by Dr. Tilman; its weight was twenty-one pounds—nine pounds

heavier than the adipose tumor which I had removed from a patient about two or three months previous, and which was reported in the Louisville Medical Journal. The flaps of the wound were brought together, and retained with interrupted stitches and adhesive straps, and treated in the usual way. Stimulants were ordered to be continued. Most of the wound healed by the first intention; and the patient recovered without any bad symptoms, or much deformity from the scar.

Case II.—Femoral Hernia.—*By Prof. Bray, Evansville.*—Mrs. N——, a slender, spare woman, aged 35, the mother of several children, fell while walking, and caused a rupture on the left side, under the femoral ring. At the time of the accident, she was twelve miles from home, and returned the same day in the afternoon, immediately after it occurred; she suffered with severe pain on her way home, which was increased by the jolting and constant motion of the vehicle. Upon her arrival, being late in the night, the family physician was sent for, who administered the usual remedies. The next morning she was worse; and by the request of Prof. Byford, the attending physician, who rendered valuable assistance, I was sent for, and requested to visit her.

I found her suffering with a great deal of pain in the region of the hernial tumor, and over the lower portion of the abdomen, which was swollen, and the pain increased by pressure; her pulse was quick, small, and hard or wiry; the skin dry, and above its natural temperature; sickness at the stomach, and occasional puking. She was emaciated and feeble, in consequence of a recent attack of bilious fever, from which she had not fully recovered; and her countenance was hypocratical or expressive of great anxiety. The hernial tumor was small, very hard, immovable and painful, especially when handled.

The symptoms being urgent, she was placed on her back, with her head and shoulders slightly raised, with a thin pillow placed under her hips, and the thighs flexed upon the pelvis and inclined inwards, so as to relax Poupart's ligament. While the patient was in this favorable position, an attempt was made to reduce the hernia by taxis, but did not succeed. Without further loss of time in the administration of remedial agents, an operation was advised, to which she immediately gave her consent, stating that her present suffering was insupportable, and that she was willing to submit to any thing which promised relief. From the time of the attack to that of the

operation was about thirty-eight hours. After the patient was placed in a suitable position, an incision was made extending through the skin, commencing from the upper portion of the hernial tumor, and extending over its axis to just below its inferior border; the superficial fascia was divided in a similar way, which brought into view the cribriform, or next covering of the hernia, which was discolored and looked dark. All of the remaining coverings were united to one another. The sack adhered to the protruded bowel, and contained no serum; it was dissected from the bowel with the hilt of the scalpel—the stricture sought for and removed, and the intestine, which looked purple and dark, was returned into the abdomen. The flaps of the wound were brought together and retained in the usual way, with interrupted stitches, adhesive straps, compress and bandage; fomentations were applied to the abdomen, and the bowels moved by the administration of a dose of oil. The patient recovered in a short time, without any bad symptoms.

This case is interesting in three particulars: First, the stony hardness of the hernial tumor, and its firmness, doubtless caused by the effusion of plastic lymph, which had glutinated the protruded bowel to the sack, and it to the different coverings of the hernial tumor. Secondly, the great embarrassment to the operator caused by the adhesions of the coverings of the hernia, and to break them up at the femoral ring, so as to release the stricture and to return the contents of the sack. Thirdly, the sack contained no serum—a circumstance generally expected, and by which it is known from the protruded bowel.

Concussion of the Brain successfully treated.—*By Dr. J. N. Graham, New Albany.*—Sept. 13, 1852, Henry Griess, aged 9 years, while running down a steep hill, lost his balance, and struck his head against a tree, just above and posterior to the left parietal bone. His father, who was a short distance in advance of the boy (some ten or fifteen rods,) ran to his relief and found him insensible, with palid countenance, loud muttering, and general prostration. The father says that in about five minutes he showed signs of sensibility; and on inquiry said he was hurt, and then sunk into stupor. Some 15 minutes from this time he was put into a carriage to be taken home, about the distance of a mile; cold water was poured upon his head, on which he rallied, and seemed quite sensible for about five minutes, and again sunk into stupor with fre-

quent emesis. Saw him about three-quarters of an hour after the accident, with cadaverous countenance; slow, small and intermitting pulse; pupil dilated largely, but contracting on the introduction of light. Treatment: applied mustard poultice to the stomach and feet, bathed in warm mustard water. Here my friend, Dr. Town, came in, and at his suggestion, the spinal surface was rubbed in spir. ter. Saw him again with Dr. T., at 8½ P. M.; occasional sterterous breathing; pulse slow and intermitting, beating some 16 or 18 times in a fourth of a minute, and then running up to 24 or 30 beats during the next quarter; great restlessness, and frequent nausea; no change in the treatment.

Sept. 14.—Called to see him at 4 o'clock, A. M. Countenance flushed; head warm; pulse 85, but intermittent; occasional nausea; had swallowed a little essence; voided urine during the night, but insensible to it. Order: Ol. Ricini, 1 oz., Spir. Ter. 1 dr.; cold applications to the head, if this seemed grateful; continue previous treatment. 7½ A. M., saw him again with Dr. T.; no material change, but slight moisture, and more regular and soft pulse; spine blistered with volatile liniment, which had been applied. Called in haste at 10½ o'clock A. M.; found him low and sinking, with feeble, slow, intermitting pulse; pupils dilated, and retina insensible to light. Ordered warm fomentations, friction by hot vinegar and mustard, mush poultice along the region of the spine, with cataplasms to the stomach and feet; enema of castor oil and spirits of turpentine, to be followed in one hour by ditto of starch and common salt, if this does not operate. 12 M., saw him with Dr. Town; second enema had been given; one operation from bowels; could by great effort arouse him to momentary consciousness; continue the previous treatment. 6½ P. M., with Dr. T.; patient more conscious; had swallowed a small quantity of warm tea; extremities warm; pulse more full, but irregular; voided urine unconsciously; stronger symptoms of reaction; remove the external applications; quiet, and ice to the head.

Sept. 14th, 7½ o'clock A. M.—Visit with Dr. Town; patient had spent a restless night; frequent delirium and occasional loud hollowing; pulse 85, but varying; pupils dilated, but contract on the approach of light. Ordered calomel 10 gr., ipecac. 1 gr. 1 o'clock P. M., head hot, with stupor and restlessness; pulse 90. Ordered cold shower bath to the head, and mustard to the feet. He aroused partially on the application of the bath, continue the bath ten minutes; pulse sensibly reduced low, complaining, and then sinks into apparent quiet slumber, with softer and less irritable pulse. Order an enema

of common salt and starch, at 4 o'clock P. M., if the bowels should not be moved before. 6 o'clock P. M., with Dr. T.; pulse 75, and compressible; bowels not moved. Pres., warm fomentations to the abdomen; enema to be repeated in two hours, if the bowels are not moved; continue applications as before.

Sept. 15th, 7 o'clock A. M.—With Dr. Town. Patient has been more quiet during the night; has had four or five operations from the bowels; find him now in an apoplectic convulsion; pulse irregular; countenance suffused, and throbbing of the carotids. Ordered head to be shorn, and pounded ice applied, with blister from the neck extending down the spine for six or eight inches. 10 o'clock A. M., has had two or three spasms since last seen; is now very quiet; pulse 75; breathing soft and easy. Saw him again at 12 M., when his pulse was 80; also at 6 P. M., when he appeared more restless, but aroused sufficiently to take a draught of cold water; continue the ice, and order calomel 2 gr., ipepac. 1 gr. every 4th hour, until *three* such portions were given; calomel to be given once in six hours, if the bowels are moved during the prescribed time.

Sept. 16th, 7½ A. M.—Saw him with Dr. Town; no movement of the bowels; patient comatose and restless; pulse 80. A small tumor is now to be seen, protruding just posterior and superior to the left ear; this we puncture, from which issues some ½ oz. of dark, grumous blood; after shaving the parts, and puncturing the tumor, we discovered a fracture in the skull, just under where had been the protuberance, of a semilunar form, and measuring some inch and a half from point to point. Bowels to be moved by enema; cold applications as before. Suggested by Dr. T., that I visit him at 9 o'clock this evening, and try the application of the ice and the shower bath to the head. 9 o'clock P. M., found all the previous symptoms aggravated. On the application of the cold douche, apoplectic convulsions followed; the father stated that this had been the case every time the cold towel had been applied since last visit. Under the urgency of the symptoms, though at what might be deemed a late hour for depletion, I opened a vien, and drew 8 oz. of blood. After this there was a slight spasm, and then the patient became calm.

Sept. 17.—We visit our patient this morning with Dr. Clapp, sen., who kindly complied with our request to call with us. Find in the patient more indications of returning reason; he has been quiet and easy since depletion. Treatment approved by Drs. Clapp and Town; continue the treatment as symptoms may indicate. 12 M., patient tossing about, with occasional

stertor. Order ¼ gr. Sulp. Morph., ½ gr. Ipecac., as indications may require.

Sept. 18, 6 o'clock A. M.—Patient has taken two of the last powders during the night; relished beef-tea, which had been previously ordered; pupil less dilated—increased sight and consciousness; muscular power returning to the left eye. Order nourishing diet and dark room.

Sept. 19th.—Continues improving. Order castor oil 1 oz., Spir. Ter. 1 dr. 6 o'clock P. M., oil operated; symptoms continue to improve, but more general debility. Order Sulph. Quinine, Etherated Camph. ā. ā. 1 gr. every third hour.

Sept. 20th.—Has had a quiet night, and continues to improve.

21st.—Sight restored to the left eye, but partial paralysis of the upper lid; great intolerance of light; nourishing diet and dark room.

Sept. 23d.—Patient walks the room—with slight paralysis of the left eyelid.

Oct. 1st.—Found the boy walking the streets; muscular debility entirely relieved, and perfect vision restored.

Anæsthesia in Strangulated Hernia.—*By Dr. W. Tate, Lawrenceburgh.*—Philip Waest, a German, has had femoral hernia of two years' standing. Was engaged June 12, 1852, in unloading a salt boat at the river—labor requiring much effort, and while exerting himself at lifting, the intestine passed through the crural ring. As soon as he arrived at home, he made repeated efforts to reduce it, as he had at other times done when a protrusion had been produced, but without success. I was then sent for, and found a tumor about as large as a hen's egg, presenting immediately below Gimbernuat's ligament, in the course of the femoral artery and vein. From the history which I have above detailed, I recognized it as a case of femoral hernia. The efforts at reduction which the patient himself had made, conjoined with the strangulation that existed, had produced considerable tenderness. I employed taxis for some length of time—the patient complaining during the effort of severe pain. The pain being an obstacle to the voluntary relaxation of the muscles, as also to our efforts at reduction, together with the improbability of taxis under present circumstances succeeding, suggested the chloroform as an agent that would produce a favorable relaxation of the muscular system, and relief from the pain incident to our efforts at reduction. Having procured the chloroform, about 1½ dr. was

poured upon a handkerchief, and placed it to the mouth and nostrils of our patient; he breathed it readily and willingly, and consequently soon came under its anæsthetic effect. On attempting to touch the tumor, he exhibited some indications of pain; when I ordered his wife to pour about a teaspoonful of the chloroform on the handkerchief, and hold it as I directed —a few inspirations produced complete insensibility. The muscular system was now under our entire control: the legs, arms, and body, were placed in any position desired, without the slightest resistance; and in a short time the hernia was reduced without the least exhibition of pain or consciousness. The patient, during the operation and for a short time afterwards, seemed to be only in a profound sleep. The precise character of the pulse I do not now recollect; but I think it exhibited nothing worthy of note. There was no convulsive movements, no excitement, talking, or delirous mutterings—the breathing was slow, but not morbidly slow; in short, his appearance resembled a person in profound and tranquil sleep. In this respect, this case differed from the majority of cases to whom we have administered chloroform—most of them exhibiting, at one time or another, something of its exhilirating effect. The patient continued drowsy for some three hours afterwards; although we were satisfied that no injury would result from allowing him to do so, yet we caused him to be occasionally aroused by bathing the temples with cold water. We were strikingly impressed, in this case, of the properties possessed by chloroform to meet the indications presented:—a relaxation and passiveness was produced by this agent which was far more complete than could be induced by the warm bath, antimony, venesection, or tobacco; besides which, none of these remedies would have relieved the pain sufficiently to render the reduction probable.

Case of Gangrene of the Foot from Ossification of the Arteries of the Leg.—*By Drs. Cornett and Depew. Ind., and occurred in the practice of Dr. R. J. Depew, of St. Omer, Ind.* —Early in the past winter, I was sent for to consult with Dr. Depew, in the case of Mr. Avery, of the county of Shelby. The patient, aged 56, was of rather delicate and slender form, but had enjoyed in general fair health. I found his foot gangrenous, with an inflamed ring round the ankle, separating the dead from the living tegument. Some weeks previously, in walking, he had strained his foot so slightly as not to regard it worthy of mention. In a day or two the pain had increased,

and in a few days more was so severe as to be almost unbearable. This pain seemed to be neuralgic in character, and somewhat intermittent. The treatment consisted mainly in the use of opium, (which was borne in large doses,) calomel, and quinine, together with topical blood-letting and blistering. The quinine was thought to be more beneficial than any thing else in relieving the paroxismal pain. At my visit immediate amputation was agreed upon. The operation was performed by the circular incision, some 6 or 8 inches below the knee. I am partial to the circular incision for reasons which I need not here give. In feeling for the femoral artery, on which to apply the compress, I was surprised at not being able to find it. I could find the artery, and a small pulsating tumor connected with it, where it crossed the pubis; but below this it could not be felt. So soon as the amputation was made by Dr. Depew, he called my attention to the state of the arteries. The muscles had retracted, and left the arteries sticking out almost perfectly ossified, with their calibers very nearly obliterated. A ligature was placed upon one, and the tourniquet loosened, and not a jet of blood occurred. Ligatures were then placed upon the others, and the usual dressing performed. There was no blood lost except that from the veins below the incision; and this operation might have been performed safely, I think, without compression, and without ligating an artery. No secondary hemorrhage occurred, and no gangrene of the stump. The wound measurably healed by the first intention, and the patient so far recovered as to be up, and talked of riding out the next day, when suddenly at the middle of the night, he was seized with severe pain in the region of the heart, and expired in half an hour. No post mortem examination was allowed. Chloroform was not used in this case, the patient having declined it on being informed of the hazard. In this he was fortunate, as I doubt much whether he would have left the operating-table alive had it been administered. This case, besides other points of interest which will readily be perceived, shows what serious results may follow slight injuries of an extremity where there is extensive ossification of the arteries.

Case of False Anchylosis successfully treated.—*By Geo. M. M[illegible], M. D., New Albany.*—Early in the year 1845, a man, by occupation a clerk, came under my care in New York, who had some three months before, by falling, injured his right elbow. A respectable practitioner, who saw

him within a few hours, not giving a decided opinion about the nature of the injury, dissatisfied the patient, and he in a few days placed himself under the care of a steam doctor, who assured him that no bone was broken, but that there was a deficiency of the sinovial fluid—to restore which he steamed him, and administered lobelia daily (if I remember aright,) for three months, though he had at first promised a cure in as many days.

At this time I was called in, and found an united fracture of the olecranon; the fore-arm fixed in a nearly extended position, and capable of very little motion, it being impossible to bring the carpal extremity within 23 inches of the acromion process of the same side. The patient was totally unable to write, or to shave, dress or feed himself.

I at first resorted to passive flexion, with soothing applications to the joint, and rubbing the limb sometimes with salt-water, and sometimes with whisky. He was benefitted by this treatment; but of course the progress was slow. Finding the making of the flexions by hand fatiguing to myself, I resorted to the tourniquet—the strap passing from the outside of the fore-arm, near the wrist, to the axilla, and around the back of the chair in which he was seated, was brought on the outside of the arm to the place of departure; thus embracing both the arm and form-arm in its fold. Now, by turning the screw, the strap could be tightened or loosened at will, and to any desired extent; and by alternating these actions, the desired motions were effected. At each sitting, I caused some lateral motion by my hand. The progress of the cure was very much facilitated by this means; but the strap, by pressing on the radius, caused a painful pronation. This was obviated by interposing a padded splint, with a block nailed to it, to prevent the strap slipping towards the elbow. The cure now progressed very favorably. After some time, I used electro-magnetic shocks with great advantage.

I regret that a full record of the case, detailing its progress under the use of the various means, was not kept; and what notes were made were lost, so that in writing an account of it after a long interval, I could rely only upon my memory for the particulars. The result, however, was, that after several months' treatment, the man being able to bring his wrist to within half an inch as near the shoulder as upon the sound side, and so freely perform the ordinary motions, returned to his occupation sooner than I desired, as in a little time I think the cure would have been perfected.

Their effect in this case warrant me in relying with great confidence, beside the means ordinarily used, in the treatment

of false anchylosis, upon electro-magnetism and the tourniquet. The mode of applying the latter will of course depend upon the nature of the joint, and will readily suggest themselves to the mind of an intelligent practitioner.

CASE I.—TUMOR OF THE NECK SUCCESSFULLY TREATED BY SUPPURATIVE INFLAMMATION.—*By Dr. P. Hill, Madison.*—Chas. Gosnell, of this city, a young man, aged about 20, applied to me in the early part of the summer of 1852. He has a tumor which occupies nearly the whole of the left side of the neck, extending from the lobe of the ear nearly to the clavicle, and filling the space between the larynx and the trapesius muscle. Anteriorly, the tumor adheres to the larynx; and superiorly, to the parotid gland. The surface is smooth and regular. It has existed a number of years, and lately has increased much. I learned from him that not long before he had applied to Prof. Gross, of Louisville, who refused to extirpate it, but introduced a seaton, which evacuated the sack of its contents—a yellow fluid—and the tumor disappeared for a short time, but filled again shortly, as large or larger than before. I proposed to treat his case after the method of Delpech; but advised him before he submitted to any treatment, to consult Prof. Musy on the subject, which he did late in the fall, and the same method of treatment was recommended by him; and on the 29th of December, I made an incision through the integuments, about three inches in length; then laid open the sack to the extent of about 1½ inches, and 8 ounces of fluid was discharged, which resembled milk and water. After cleansing the cyst with water, I filled it with dry lint, and let it remain four days; then removed it, and dressed with compress and bandage as tight as he could bear, and continued to dress in the same way on alternate days until the wound healed. Every thing seemed to go on with a fair prospect of a cure; but shortly after the healing of the wound, I was satisfied that but little, if any, good had been done, for it filled again larger than ever. Not satisfied with the result, I proposed to try it again, which was readily agreed to by my patient; and on the 6th day of the present month (April) I made another incision much more extensive than the first, commencing behind the lobe of the ear, and carried down nearly to the clavicle, dividing integuments and cyst both. About the same quantity of fluid was discharged, but of a dark color,

resembling coffee. There was but very little bleeding in either operation, no arteries being wounded.

I now determined to effect a cure, if such a result could be brought about by means of inflammation and suppuration; so I filled the whole cavity with lint soaked in Tinc. Cantharides, applied a bandage, and left my patient as comfortable as could be expected under such treatment. Three hours after, a messenger came in great haste to inform me that my patient was about to die—that his neck had swollen so, that he could not breathe; and in addition to that he was about to bleed to death. On my arrival, I found his statements true. I cut the bandage, and found the blood flowing from a small artery immediately behind the angle of the lower jaw; and not being able to take it up without more cutting, I removed a part of the lint, made a hard ball of cotton, put it into the wound and pressed it up against the bleeding vessel with my thumb, and held it there for half an hour. The bleeding being arrested, I then applied the bandage again, since which time I have had no trouble with it. The inflammation has sufficiently subsided, and suppuration abundant; every thing appears favorable at this time of a cure, and I feel confident that such will be the result. I have not removed the lint, and intend to let it remain until it is forced out by granulations, which I think are forming rapidly.

Case ii.—Excision of a Tumor situated upon the Tibia.—*By Dr. P. Hill, Madison.*—About last Christmas, I saw Mr. McMindis, a laboring man, near Vernon, Jennings County, who showed me a tumor situate on the anterior and inner face of the right tibia, at its upper extremity, about the size of a black walnut, and of the adipose character. I then proposed extirpation, but he refused at the time. I visited him again March 4th; found the tumor increased to 5 inches in length, and 4 inches broad; oval in shape. The rapid growth induced him to submit to the operation, which I performed in the usual way. On making the incisions through the integuments, I found the tumor firmly attached for the space of an inch or more at its upper extremity, to the periosteum, which I carefully separated; the balance of the tumor lying upon the fascia of the muscles. I dressed the wound with adhesive plasters and bandage, which united by the first intention; and in ten days the patient was dismissed cured, since which time he has been able to attend to his occupation.

Case iii.—Amputation of the Leg from Compound Fracture.—*By Dr. P. Hill, Madison.*—January 27th, 1853, I was called together with Drs. Schisler and Mullen, to see F. Bruner, of this city, German, who had just received an extensive compound fracture of the leg. Amputation was at once decided upon. The question then arose as to the kind of operation. I proposed the flap operation; Drs. Schisler and Mullen urged the circular method, which I objected to, and proceeded to operate by passing the catling through the muscles, with the edge of the knife close to the bones, 4 inches below the knee; then with one stroke, carried downwards and outwards, forming a flap of sufficient length; then made a transverse incision across the anterior part of the leg, about one inch below the commencement of the first, raised the integuments with a scalpel from the bones, so as to correspond with the first incision, turned them back and sawed the bones as close to them as possible. I secured the arteries, washed the wound, then brought the posterior flap up, and made fast to the anterior one by means of three sutures, applied adhesive plasters, and dressed in the usual way. The flaps united measurably by the first intention. Every thing went on well—the patient recovered in the usual time, and was discharged with a most beautiful round-ended stump, the bones covered with a muscular covering of at least one and a half inches thick.

The main object of reporting this case, is to show the superiority of the flap operation over that of the circular, even in the upper third of the leg, notwithstanding what has been said and written against it. In this case we have the bones well protected from external injuries by a thick muscular covering; whereas it is not uncommon in this country to see persons carrying about stumps, with the bones barely covered with skin, and liable every day to external injury and suffering therefrom.

Case of Enlargement of the Head, and Delivery by the Long Forceps.—*By R. Curran, M. D., Jeffersonville.*—Sept. 19th, 1852, I was called, in haste, to see Mrs. A——, who had been in the hands of a midwife for several days, and for the last twenty-four hours in decided labor. For about six hours previous to my arrival, the pains had been feeble and inefficient, and the woman had become discouraged and greatly exhausted.

The midwife informed me that an unusual amount of water had passed away and that several sacks in succession had

made their appearance at the vulvæ, rupturing and discharging their contents under the action of the pains. The patient had been conscious of unusual burthen and abdominal enlargement, and confidently looked for twins.

Upon examination, I found the breach of the child presenting, the os tincæ pretty well dilated and soft; the only obstacle to speedy delivery seeming to be the absence of pains. I proceeded to administer the ergot, in about five grain doses, every ten minutes. After the third dose, the pains came on again, gradually increasing in force and frequency, until the breach and body of the child were expelled, in an easy and natural manner; and I confidently expected the labor would be completed without further delay. But at this point, the progress of the child was arrested by an unexpected, unforeseen, and as yet inexplicable difficulty. In no position in which I could place the head, could it be made to descend in the least degree below the brim of the pelvis, where it obstinately hung, its bulk evidently greatly exceeding the dimen sions of the natural way through which it must pass.

After making repeated examinations, and using all the exertions the case seemed to justify, and becoming satisfied that the difficulty could only be surmounted by the aid of surgery, I despatched a messenger for consultation. But I soon discovered that the condition of my patient admitted of no delay, unequivocal symptoms of extreme exhaustion suddenly appearing. I had fortunately brought my obstetrical case with me, apprehending an emergency. I hastened, therefore, to fix my diagnosis, and establish the rule of procedure. I had conjectured from the first arrest of the head in its descent, the existence of morbid enlargement—as the capacity of the pelvis was good, the woman having borne several children before easily; the enlargement I supposed to be congenital hydrocephalus, and this from the history of the case as well as the feel of the part susceptible of examination. To reduce its bulk was of course necessary, and craniotomy the only plausible means. After placing my patient and the body of the fœtus in the best positions to give me command of the parts, I passed the perforator, protecting the maternal structures with two fingers, until the point rested upon the line of the suture behind the mastoid process, from which position it was easily passed into the cavity of the cranium. By changing the position of the perforator. a crucial and free opening was made. But owing to the inconvenient and crowded position and relation of parts, a very limited sweep was allowed to the handles of the instrument, and consequently the breaking up progressed slowly. This, together with the facts that the

different towns below Cincinnati and St. Louis. The cases were sporadic at first, but became of more frequent occurrence as the month advanced; and about the first of May we may consider the disease assuming, in many parts of the West, the form of an epidemic; and before the middle of June it was prevailing in this form at several of the river towns in our State.

In tracing the progress of Cholera in the State of Indiana, I commence with that portion of the State which came under my own observation; then present the information which I have been able to obtain from the counties on the eastern side of the State; then from those on the north; next, from those in the centre and the west; and lastly, from those in the south and south-west. I believe the information obtained, includes nearly all the prominent points within the State at which Cholera has prevailed. Although this information in many instances has been extremely brief; still it will enable us to form some idea of the extent to which the disease has prevailed—of the course of treatment adopted by our physicians; and also furnishes us with the observations of a number of our physicians on the manner in which the disease is propagated, as well as its predisposing and exciting causes.

DEARBORN COUNTY.

The first place in this county, and one of the first in the State, that was visited by Cholera in an epidemic form in 1849, was Aurora, a little town situated on the Ohio river, 26 miles below Cincinnati, and at that time containing about two thousand inhabitants. The country around Aurora, on the south, the west, and the north, is diversified with hills and valleys; these hills rising to the height of from 450 to 500 feet above low-water mark. On the north-east side of Aurora, commencing within the town, is an extensive tract of alluvial bottom land, known as the great "Miami bottoms," extending in one direction more than fourteen miles, and varying from one to four miles in width. Within this tract of low land is Lawrenceburgh, Hardingtown, and Elizabethtown. The soil on this alluvial formation is deep, black, and fertile, which is caused by the occasional inundation of a large portion of this bottom. Hogan Creek passes through the upper part of Aurora; its banks are muddy, and water generally stagnates to the distance of about two miles above its mouth. The geological formation of this section of the country, is the lower silurian, or blue limestone of western geologists.

Aurora being a good shipping point, a large number of its inhabitants are river traders, and spend the winter months in

the south. When Cholera made its appearance in New Orleans in the winter of 1848–9, five of our citizens became its victims before they reached home; others returned to Aurora, laboring under diarrhea, having returned on boats on which Cholera was prevailing. One man was landed at Aurora, on the first of January, from a steamboat, on which there had been a number of deaths from cholera. He had had diarrhea for several days, and a few hours after his arrival was attacked with vomiting and purging also cramps of the extremities. The discharges, however, were not at any time those of the "rice water" character, so peculiar to cholera. The disease gradually assumed the form of a typhoid fever, of which he died after about a week's illness. Whether cholera was connected with this case, I am unable to say. No other cases occurred at the house where he died; although from this time, during the months of January, February, and March, we had a number of cases of vomiting and purging of an unusual character. These cases were easily managed, and attracted but little attention.

In the fall, scarlatina made its appearance at Aurora, and assumed its most malignant form. This disease continued to prevail until about the first of February; when it gradually disappeared, and was followed by measles, which also assumed rather a malignant character. Had these diseases any connection with the subsequent appearance of cholera in this town? It shows at least, as they assumed a malignant form, that some depressing cause was operating upon this community; and it is well to bear in mind also, that in 1831 and 1832, previous to the appearance of cholera, scarlatina prevailed extensively along the valley of the Ohio river.

About the first of May, diarrhea became prevalent, and gradually increased during the month. Sudden attacks of vomiting and purging, connected with profuse perspiration and a remarkable depression of the vital powers, were of frequent occurrence. In several families, the different members were attacked in succession. Some of these cases, which had been neglected, assumed well marked symptoms of cholera—viz: rice water discharges, a dark and shrunken appearance of the skin, severe cramps of the extremities, &c. But still we had no deaths from cholera up to the 19th of May; although we had a greater amount of ill health than I had ever before witnessed in this neighborhood. This sickness was principally confined to Aurora and its immediate vicinity; it was easily managed, and did not create any alarm. On the 19th of May, at midnight, I was sent for to attend one of our citizens, who was landed at Aurora from a steamboat on her way to Cincin-

nati. I found him in the collapsed stage of cholera; he died in a few hours afterwards. A large number of persons visited this patient, and several were in constant attendance on him; but there were no well marked cases immediately followed. Several persons at the tavern, where he died, were attacked shortly after with a mild form of diarrhea. On the 5th June, a woman residing near my residence was attacked with diarrhea; this was followed during the night by vomiting and cramps of the extremities; towards morning, she suddenly became faint and prostrated, and her friends for the first time were alarmed. I was sent for, and found her passing into collapse; she died about three o'clock in the afternoon. This was the first death from cholera which appeared to originate within the town. This woman had an attack of diarrhea about a week previous, which then yielded readily to medicine. The last attack was brought on by imprudence in diet. She had not been away from Aurora, but she had seen a number of persons shortly after their arrival from New Orleans, who were unwell with *diarrhea*. About the same time, a woman who resided five miles below Aurora, died of cholera. The next day her sister was severely attacked, but gradually recovered. Several of the neighbors were afterwards attacked with diarrhea. The first woman was in Aurora a few days previous to her illness; and the others had been in attendance on her. My object in presenting these cases, is to show the manner in which it is probable the disease was introduced into our neighborhood.

On the 9th, a man died at Aurora, who left Cincinnati a few days previous unwell with diarrhea; he was suddenly attacked about noon with cholera, and died that evening between 9 and 10 o'clock. There had been an unusual amount of sickness during the day; and fresh cases continued to occur during the night. About 11 o'clock, I saw a patient, in consaltation, who was attacked with faintness and vomiting; shortly after I was called to see another patient who had a severe attack of diarrhea. Towards 2 or 3 o'clock in the morning, the husband of the woman who died on the 5th, was attacked with cholera; also his sister, residing in the same house; and about the same time, three of his neighbors. All these cases were within a few yards of my residence; and the same cause which was producing this sickness, was also operating upon my system, for while attending these patients, I was suddenly attacked with diarrhea, which was immediately followed by a very profuse perspiration. I went home, and took several large doses of a mixture of catechu, camphor, and laudanum, which in a short time checked the diarrhea; and, after a few hours' rest,

(although very much fatigued from the previous day's labor,) I felt almost well again and continued my practice. I visited patients until about eleven o'clock, when the diarrhœa returned, accompanied with vertigo and an unusual feeling of lassitude. That night, or rather towards morning, I was attacked with vomiting accompanied with cramps in my stomach and legs, and an inexpressible smothering or oppressive sensation in the epegastric region. This is a symptom belonging to Cholera that I have never seen properly described. In fact it is very difficult to describe. It is a peculiar sensation, that immediately precedes either the act of vomiting, or the discharge from the bowels, or cramps. I will notice this symptom again. During the day I got better. That night there were four fresh cases, all in the same part of the town—a few yards from where the first cases occurred. Those persons attacked on the 9th and 10th, were convalescent, with the exception of two, who died during the day ; and the four last attacked died before night, making six deaths on the 11th. There was nothing remarkable in the weather, which should cause the disease to become so malignant. I noticed on the 10th, the sky was clear; the thermometer ranged from 63 to 84 deg. during the day, and the barometer stood at 29 inches 53–100 in the morning. Both these instruments indicated but little change in the atmosphere for several days. I had kept a daily record of both the thermometer and barometer for several years, but could not discover any remarkable change up to the time of my illness; and at that time I got my friends to observe the variation of these instruments. On the 12th we had eight deaths—all confined to the same locality ; amongst the number was my son, in the fifth year of his age. He went to bed in the evening apparently unusually well, and was attacked about five o'clock in the morning with vomiting and diarrhœa—both of these symptons came on at the same time ; although an active course of treatment was immediately resorted to, still he rapidly sank into collapse, and died after about eleven hours illness ; nearly all the cases that occurred this day, were among children. During the day, Drs. Harding and Tate of Lawrenceburgh, Drs. Ebersol and Locke of Wilmington, and Dr. Haines, Sen., of Rising Sun, were sent for, and assisted our physicians in treating the disease. But all regular treatment was abandoned ; the prescriptions of the Quack were given alternately with those of the regular physician. The people seeing that a large number of those attacked died, resorted to every "Cholera specific," or nostrum for the disease. that could be obtained. The inhabitants were daily leaving for the country, and the town bid fair

to become entirely depopulated. Some persons thought the disease was produced by drinking the water from a well situated at the corner of my lot, as nearly all those attacked had been in the habit of using this water. The well was at once abandoned, and cistern water was generally used instead. But the disease still continued to progress and attack those who resided within the infected district, many of whom remained to assist the sick; others thought that fear made the epidemic more malignant, which possibly, in some instances, was the case, as we know that mental emotions may derange the action of the stomach and digestive organs, but we must also bear in mind that the disease prevailed with the same fatality amongst children that it did among adults; and they had not the least dread of the disease, and persons who faithfully attended the sick, and never manifested the least alarm, died as suddenly as the most timid. On the 13th we had four deaths, all in the same locality. This day my daughter was suddenly attacked with diarrhea, and all my family were unwell. I was attacked with hematuria, which continued about 12 hours—the hemorrhage gave relief to a painful sensation in my side.

On the 14th large fires were made at the corners of the streets, in the infected portion of the town, and cannon were fired every twenty-five minutes for four or five hours. This, I have no doubt, did harm. We had 14 deaths this day, and the disease was unusually malignant. Some died in four hours after they were attacked. The weather was warm and sultry, and to those that believe that an electrical condition of the atmosphere favors the progress of Cholera, I may state, that about midnight we had a thunder storm of more than usual severity; the lightning struck a dwelling house near the infected district, and there was a very heavy fall of rain. The next morning, the 15th, the atmosphere was beautifully clear, and the streets were washed clean by the heavy rain that fell during the night. This day we had five deaths. Among the number was an estimable lady who had been very active in attending on the sick. She was attacked with the disease in the night, and died in a few hours. Her residence was in the infected locality, and from her benevolence, and energy, and the difficulty in obtaining attendants, her death was felt as a severe loss to the community. On the 15th, we had six deaths. By this time nearly all that could leave the infected portion of the town had left. Deaths continued to occur daily among the inhabitants that remained.

On the 20th, our youngest child (in the second year of his age) was attacked, apparently more violently than our little boy who died; but contrary to my most distant expectations

he gradually got better, although he did not entirely recover from the effects of this illness for more than a year. On the 21st, a man and his wife, who were our nearest neighbors, both died. The man had been constant in his attendance on the sick from the first appearance of the epidemic, and I, as well as many others, were under deep obligations to him for his kindness and attention. Fatigue, I have no doubt, brought on his attack of cholera; his wife was attacked violently the day before, and not being able to obtain assistance, he attended her all night alone, administering remedies, and early in the morning was attacked himself. Although very much enfeebled, and unwell with diarrhea, I assisted in the treatment of his case. Our remedies, however, seemed to have no effect; he rapidly sank, and both he and his wife died within a few hours of each other, in the evening. This made three deaths out of this family of six persons. To give some idea of the malignancy and fatality of the disease in this part of the town, which I believe to be the *healthiest*, as it is the farthest from the river, the creek, and our two distilleries, and by no means densely inhabited, for nearly every alternate lot is vacant. In the first house east of my own, there resided four persons, all adults, three of whom died. The house directly opposite to mine was occupied by eight persons, five of whom died. In the house back of my own, there were four deaths out of a family of six; and in the first house west of mine, there were, as I before mentioned, six persons, three of whom died. In the adjoining house to this one, resided a man, his wife and child; the man and wife both died. In the next room beyond, a woman died. In the next house were five persons, three of whom died. In the next house beyond this one again, a man and his wife resided, they both died; and in every house along the street in this square, there were more or less deaths. Then back of these buildings, along the next street, which is some 25 or 30 feet higher, as this portion of the town is on the hill side, the mortality was equally as great. There were in the infected district about 97 inhabitants, 51 of whom died. Several left at the commencement of the disease, that are not included in this number. My family, six in number, was rather more fortunate than most of our neighbors—we lost but one, although all unwell. I had diarrhea almost daily, and had become so enfeebled that I could scarcely walk; and I have not been able to hear of any person who resided within this part of the town, that was not more or less unwell. Three weeks from the time cholera assumed its malignant form, our town presented the most desolate appearance—1,600 out of a population of 2,000, had left the place. The

few neighbors we had were most of them too unwell to leave their houses ; and as we saw but few individuals, the part of the town in which I resided appeared almost entirely deserted. Those who went to the country, with few exceptions, soon regained their health ; for out of the 1,600 that left Aurora, there were only 13 deaths, and nearly all who died were attacked belore they went away, and it is worthy of remark, that, although the citizens that left Aurora unwell regained their health, yet they appeared in many instances to communicate the disease to the inhabitants in the country. Living in the midst of this infected district, I had a good opportunity of observing, from day to day, the progress of the disease, and its effects upon myself and family. We all felt an inexpressible sensation of lassitude and debility ; the least imprudence in diet would bring on diarrhea, and I noticed in myself that sometimes a draught of cold water, or a little fatigue, or a change in the weather, would bring on symptoms of the disease. I found it necessary ultimately to remove my own family from this infected portion of the town for the restoration of their health : the change produced at once the best effects. Deaths continued daily to occur ; and on the 3rd and 4th of July, it appeared with fresh violence in another part of the town, about half a mile below where it had been prevailing. On the 3rd there 14 deaths. The weather suddenly became cool, which I have no doubt was the cause of the increased mortality, as I noticed at this time there was an increase of the disease at Cincinnati and St. Louis. On the 23d of July, a large distillery, flouring mill, and corn house, besides several other buildings, were destroyed by fire. As the disease was still prevailing, (for at the time the alarm of fire was given I was attending a case of cholera, and there were several cases near the mill,) I felt a deep interest in observing whether the excitement and unusual exertions of our citizens in saving property and extinguishing the fire, would not produce an increase of the disease, but it did not. The disease gradually continued to decline up to the 2d day of August ; and after that time we had no deaths from cholera, and our town became unusually healthy. On the return of our citizens, there was no increase of the disease. During the fall, dysentery prevailed in the surrounding country to a considerable extent; there were but few cases at Aurora. We had now lost, from the 27th of May up to the 2d of August, 132 of our inhabitants—51 men, 34 women, and 47 children under 12 years of age. While the cholera was prevailing, several dogs and cats died suddenly in the infected portion of the town, which was supposed by some to be caused by cholera.

I before stated, that out of 1,600 persons who left Aurora, there were only amongst them 13 deaths. We will now follow some of these cases, as they appeared to introduce the disease into the country. A Mr. Kastner, who resided in Aurora, was attacked on the 14th of June with diarrhea. He was taken about 16 miles to the residence of his father-in-law, where he died in a few days after. Dr. Bowles, of Harrison, who attended him, writes me, that "the cases of cholera which apparently occurred as the result of communication direct or indirect, with Anthony Kastner, were in number 15, of which 13 were fatal, and 2 recovered—Kastner excluded, who was the only patient I visited in that neighborhood; he died from the effects of cholera. The disease was confined to the Stewarts' connections, that is the father-in-law's, and with two exceptions, to his immediate neighborhood, which is located on the limestone hills between the Dry Fork and Miami river. One of the cases excepted resided on the Brookville road, two miles from Harrison; the other, on the sandy flat situated near the infected district, and were frequent attendants there. In that district, the following winter, typhoid fever prevailed. I am not aware *that during* 1849 *any other cases of cholera appeared in that neighborhood.*"

Another one of those who died after leaving Aurora was a Mrs. W. She resided in the infected portion of the town, and had been attending the sick. She left on the 14th, unwell with diarrhea, and went to her relatives in the country—that evening she was attacked with cholera, and died during the night. In a few days after, a child and a young man residing at the same house were attacked and died; then her brother and his wife were attacked, but they recovered; then another brother and his wife, also two of his neighbors; then the brother-in-law—all of these died. There were ten cases and eight deaths which appeared to have a connecting link with the first case, or at least with one another.

Another one of the citizens of Aurora that died in the country was a German, of the name of Henry Swanega. He was attacked with diarrhea, and went to a friend of his who resided about six miles from Aurora, in a very secluded situation. In the afternoon he eat some mulberries—that night he was attacked with cholera and died. The next day, another person residing at the same house was attacked and died; and on the third day another relative died from this disease. There were other members of the family attacked with diarrhea, but recovered. They lived. as I before mentioned, in a retired situation, and consequently but few persons were exposed to the disease. Previous to the arrival of Swanega, the neighborhood was healthy.

Another one of the 13 was a Mr. Willcox. He was attacked with diarrhea, and left Aurora unwell on the 2d of July. His wife, at the time, was just recovering from an attack of cholera, and was barely able to be removed. He went to one of his relations residing in Kelso township. In a few hours after his arrival, he was attacked with cholera and died. The disease then spread amongst the neighbors who attended him; and from them through the neighborhood, until within ten days there were 26 deaths—amongst the number was the attending physician, Dr. Sherry. I have been credibly informed that previous to the arrival of Mr. Willcox, there was no sickness in the neighborhood. The other deaths occurred in Sparta and Manchester townships, in this county, in Dillsborough, and in Lawrenceburgh. The letters of the physicians of Sparta township and Lawrenceburgh will describe the disease as it prevailed there.

A large number of our citizens, many of them quite unwell, went to Wilmington, a little village containing about 250 inhabitants, two miles from Aurora, on an elevated and in a very healthy situation. At this place cholera made its appearance, and there were nine deaths, besides a number of cases. There were two physicians at Wilmington—one of them, Dr. Locke, died from cholera. I saw him shortly after he was attacked; he stated that he had diarrhea the day previous, but attended to practice until late in the evening; he was attacked with vomiting in the morning, and died after about nine hours illness. The other physician was also unwell. I might here remark that four physicians of Dearborn County died with cholera—Dr. Taylor of Dillsborough, Dr. Locke of Wilmington, and Dr. Sherry of Dover, in 1849; and in 1851, Dr. Loda of Aurora.

After the disappearance of cholera in our county, which was about the 1st of August, dysentery began to prevail. We had but few cases at Aurora; it was principally confined to the country, and, with a few exceptions, it was not of a very malignant character.

In the year 1850, Aurora was remarkably healthy, although we had a few cases of cholera. In April, a man landed at Aurora from a steamboat. He went to the residence of his father-in-law, about a mile and a half in the country; he was attacked with cholera and died. The second day, his father-in-law took the disease and died; and in six days from that time, their nearest neighbor was attacked with the disease and also died. Several children in these families were attacked severely with diarrhea, but recovered. Only a few persons saw these cases, and at the time, with this exception, the

neighborhood was unusually healthy, and I do not believe there was another case of cholera in the county. Was it a singular coincidence that cholera occurred in these families after the arrival of this man from off the river? About the 1st of July, a man residing in Aurora was attacked with cholera and died. The next day his wife and four children were attacked—the woman and one child died, the other children were removed from the house and recovered. On the 9th, another one of our citizens was attacked and died, after a few hours' illness. The family was removed to the country, and with the exception of two of the children being unwell, the disease did not spread. These are all the well marked cases of cholera that occurred at Aurora this year; we had, however, frequently what I considered the diarrheal form of the disease. Our inhabitants appeared in a great measure to have lost their susceptibility to the disease. A packet boat was running daily between Cincinnati and Aurora—the cholera was prevailing at Cincinnati, and our citizens had daily intercourse with that place, but the disease appeared to have no tendency to prevail amongst us as an epidemic. Not so, however, with some portions of our county; in York township, cholera in connection with dysentery began to prevail about the 1st of August, and from that time up to the 3d of September, there were more than fifty deaths. It prevailed upon the highlands, no cases occurring within the valley of Tanner's Creek.

In the year 1851, Aurora was again remarkably healthy; we, however, had a few cases of cholera this year. In August, one of our physicians, a few days after his return from Cincinnati, was attacked with cholera, and died after about eight hours' illness; ten days afterwards, a woman who resided in the next house to the doctor's, was also attacked, and died in a few hours. On the 9th of September, about 14 days after, a little girl residing in another part of the town was attacked with cholera and died; five days afterwards, her father had a severe attack, but recovered. About the same time, a little boy residing near these cases, died with symptoms of cholera; four days afterwards, his sister, who was a servant-girl at the house of one of our physicians, was attacked with cholera and died. These were all the deaths that occurred at Aurora and in its vicinity in the year 1851. We see how the disease may have been introduced into our town, but it is difficult to trace a connecting link between the cases that occurred. This year the season was remarkably dry, and the water in our wells became low. If limestone water is capable of producing the disease—as many suppose—we ought to have had cholera this summer in its most malignant form.

About the first of July, dysentery began to prevail a few miles south of Aurora, and continued in the neighborhood for nearly two months. It appeared to a certain extent contagious, attacking in succession the different members of a family. The nurses who came from a distance were attacked—one young man, who went from Wilmington to assist the sick, was attacked and died. There was nothing in the locality that could produce the disease; it was prevailing upon one of the healthiest highland ridges in the country. It appeared to me to have been introduced into the neighborhood. On the 30th of June, a young man, shortly after his return from Cincinnati, had a severe attack of diarrhea and occasional vomiting. I saw the case, and thought at the time it was cholera diarrhea; he soon recovered. In a few days after, other members of the family at which he was residing, were attacked with mild dysentery. The disease then spread as a dysentery amongst the neighbors who visited here, and in several cases assumed a very malignant form.

In 1852, the first cases of cholera we had in this section of the country were in Manchester township. A man who resided a few miles from Lawrenceburgh, shortly after his return from Cincinnati, had a severe attack of cholera morbus. One of the attending physicians informed me, that it presented very much the appearance of cholera. Seven days afterwards, his mother, who had been attending him, and had gone on a visit to her son-in-law's, about five miles distant from where the first case occurred, was suddenly attacked with cholera and died. The next day her son-in-law, and his son, a lad about 13 years of age, were both attacked and died. The day following two small children in the same family were severely attacked, but gradually recovered. A large number of the neighbors were in attendance on the sick, and with the exception of a few cases of diarrhea which occurred shortly after, there was no other sickness, and these were the only cases of cholera I could hear of in the county. On the 29th of June, a Mr. C. C. Kelsey, one of our citizens, came up the river; he had had diarrhea for several days previous to his arrival at Aurora. Soon after his return he became suddenly worse. The discharges from the bowels were of the rice water character; he had severe cramps of the extremities; his skin was clammy; his eyes were sunken, with a dark circle around them. I considered this a well-marked case of cholera, and mentioned it to our physicians. He gradually recovered. On the 5th of July, an old man by the name of Fickiss, who resided in the outskirts of the town, while working in the harvest-field was suddenly attacked about noon

with cholera, and died that evening. Three days after, his daughter was attacked with the disease and died. On the Monday following, the man who was at work with him in the field was also attacked with the disease and died; he resided in another part of the town. Two days after, a young woman who attended the funeral of the old man, was attacked and died. The week following, two children in the same neighborhood—one of them the second house from where Fickiss lived—died with symptoms of cholera; and there were several cases of diarrhea in this part of the town. The neighbors generally avoided the disease, and but few persons saw these cases. There were no other cases of cholera that I could hear of, at this time, in the county. Fickiss had not been away from Aurora—and the question may be asked, did the disease in this case arise spontaneously? There was nothing in the locality that I could discover that would favor the development of the disease. I may here mention, that while I was attending Mr. Kelsey, I left him for a short time to visit a patient in the lower part of the town. This man Fickiss came to the house where I was; he complained of soreness in his breast which he had had for several years, and desired me to examine his lungs, which I did. Not having my stethoscope with me, I applied my ear and percussed his chest, but could not detect any disease of the lungs, and considered the disease neuralgic. As he was attacked a few days after, is it probable that he was peculiarly susceptible to cholera, and I communicated it by carrying the infection in my clothing? On the 3d day of September, an old citizen three days after his return from Cincinnati, was attacked with cholera and died. A large number of our citizens were in attendance, but there were no other deaths. One of his neighbors had a severe attack of diarrhea, and another the cholera morbus, within a week afterwards. On the 9th of September, one of the deck hands on the packet boat that runs between Aurora and Cincinnati, was attacked with cholera. I was sent for, and found him in the collapsed stage of the disease. He gradually recovered, however, after about ten days' illness. This case, unlike the last, appeared to give rise to several others, for at the house where he was taken to, within a week after his recovery, a child was attacked with cholera and died. A few days afterwards, in a house directly back of this one, about twenty yards distant, an old woman and child both died with cholera on the same day. About the first of October, a number of foreigners came to work on the Ohio & Mississippi Railroad—most of them were from the neighborhood of Rochester and Buffalo, N. Y., where the cholera was at that time

prevailing as an epidemic. One of these men, I was informed, was attacked with cholera shortly after his arrival, and died after a few days' illness. There were eight persons residing in the house where this man died, but none of them had the disease. On the 30th of September, another Irishman, shortly after his arrival from Rochester, was attacked with cholera and died. In three days afterwards another man at the same house was attacked, and he also died: The next day another foreigner who resided in the same street, about two hundred yards distant, died. The day following, Oct. 4th, one of the old inhabitants died from cholera; she resided in the next house south of the one where the first case occurred, about thirty yards distant, but had not seen any of the cases. In four days after, on the opposite side of the street from the house at which this last death occurred, a little girl died from cholera. An Irishman, who was superintendent on the Lawrenceburgh & Greensburgh Railroad, a few miles above Lawrenceburgh, lost three of his men from cholera. Feeling unwell himself, he returned to his family, who resided in Aurora. The next day, Oct. 9th, he was attacked with vomiting, and cramps of the extremities, but had no diarrhea—he recovered. I was not certain at the time whether this man was laboring under cholera; but as he had been with the disease a day or so before, I thought it probable he was under its influence. In less than a week from this man's illness, five of his relations, who resided in the adjoining house, were attacked with cholera, three of whom died. These were the only cases in this part of the town; and it is a singular coincidence that it should appear in these families immediately after this man's return, if he did not communicate the disease. On the 3d of November, a relative of the woman who died on the 4th of October, was attacked with cholera, and died after about six days' illness. A few days after his death, his wife and three of the children, also an old lady who resided at the same house, were attacked with diarrhea—the wife with cholera morbus; they all recovered. In the same part of the town, another man was attacked with cholera, and died after four days' illness. On the 13th of December, five weeks after, his wife was attacked with diarrhea, vomiting, and cramps of the extremities—she recovered. I may here remark, that there was nothing in the localities in which any of these cases occurred, that would be more likely to produce the disease than in other parts of the town. These are all the deaths from cholera, and well marked cases of the disease, that occurred in Aurora this year. There were many cases of diarrhea and cholera morbus; but as it is so difficult to distinguish be-

tween the common disease of our country and cholera, in the form of diarrhea or cholerine, I have only occasionally alluded to them. Among the foreigners at work on the Ohio & Mississippi Railroad, there were a number of deaths from cholera during the fall; also on the Lawrenceburgh & Indianapolis Railroad. As these cases occurred some seven or eight miles from Aurora, I have not been able to learn the particulars or the exact number of deaths. I have thus endeavored, as far as my own observation has extended, to minutely give in detail all the indisputable cases of cholera in the order in which they occurred at Aurora and in the surrounding country since 1849, showing the connection between the cases when a connection appeared to exist, and presenting also the isolated cases. I have thus been minute, for the correctness of our conclusions in reference to the progress of the disease through the country must depend upon the accuracy of our observations.

The course of treatment which I generally adopted, was, when called to treat the disease during the form of diarrhea, (if there was no evidence of irritating substances in the stomach,) I gave opium, catechu, camphor, capsicum, and calomel, variously combined, to meet the indications. I make it a rule to repeat the dose after each evacuation, lessening the quantity of opium, or omitting it altogether, when there is danger of producing narcosis. If the disease was obstinate, I gave large doses of tannin in combination with small doses of calomel, and tannin injections. These remedies, with perfect quietude, and sinapisms to the abdomen, nearly always arrested the diarrhea at once. When the attack commenced with vomiting and purging, and I saw the case early, I generally gave an emetic of salt and mustard, after which I gave opiates, calomel, astringents, stimulants, and chloroform, as symptoms seemed to require. If symptoms of collapse became manifest, I gave ammonia, sulphuric ether, spirits of camphor, or brandy and water; also ordered the astringent injections after each operation, at the same time operated upon the surface of the body by heat, friction, and irritation—such as the application of bottles of warm water, bags of warm sand or ashes, and friction with the bare hand, dry salt or a coarse towel, or irritated the skin with sinapisms, or rubbed it with mustard or cayenne pepper; if there was profuse perspiration, I had the surface of the body rubbed with tannin. In some cases I gave calomel in large doses, but I thought it did harm by increasing the diarrhea; but calomel often repeated in small doses, from two to five grains, in combination with opium and astringents, seemed in many instances to have the best

effect. Whenever I could procure black bilious discharges from the bowels, my patient was generally safe. Opium was one of our most valuable remedies; but I saw several cases where I have no doubt it had been given too freely, and produced congestion of the brain. Bleeding was tried in a few instances, but with no good effects; creosote and quinine were also tried, but without any satisfactory results. Dr. Haines, of this place, tried large doses of spirits of turpentine, but it did not appear to have the least influence over the disease. Large doses of capsicum, camphor, and calomel, combined, were tried, but without any beneficial effects—in several instances where the patient did not die from collapse, the capsicum seemed to produce inflammation of the stomach, which was ultimately the cause of death. The worst case of cholera that recovered in Aurora was one of our tavern-keepers, who refused to take any medicine whatever. A large dose of tannin was given him, however, by one of our citizens, without his knowledge, in a glass of brandy and water. This man had a bucket of water placed by his bed-side, and drank brandy and water freely. He gradually recovered from apparently the lowest stage of collapse. The worst cases that recovered were permitted to drink freely of brandy and water. The desire for water appears like an instinctive effort of nature to supply the loss of serum which pours from the patient like a passive hemorrhage. I may here remark, that I think we cannot be too cautious in administering cathartics in the treatment of cholera. Several citizens of Aurora lost their lives by taking purgatives, while unwell with slight derangement of the bowels, during the prevalence of the disease at this place; at least the cathartic seemed to act as an exciting cause in bringing on the attack. As one of the most important indications in the treatment of cholera is to arrest the diarrhea as soon as possible, I have found no medicine so uniformly successful in accomplishing this object as tannin. It is, as is well known, one of the purest and most powerful astringents we possess, and generally agrees well with the stomach. I have given it in large doses, frequently repeated, from ten to fifteen grains, until more than one hundred grains had been given in a few hours, without seeing any bad effect from it, and found it to succeed in arresting the diarrhea, when other powerful astringents had failed. I was called in consultation with Dr. Ebersol, of Wilmington, to see a young lawyer of that place who was severely attacked with cholera. All the usual remedies had been given, commencing with large doses of capsicum, camphor, and calomel; then opium, calomel, and stimulants, without any good effect.

Tannin was recommended in large doses, to be given until the diarrhea was arrested, without regard to quantity; it was given with diffusible stimulants, also in the form of enema, and the doctor informs me that more than half an ounce was administered. The discharges from the bowels were arrested, and the patient got well. I saw a case last summer, where all the usual remedies had been resorted to, without the desired effect. The tannin and tannin injections were again recommended and tried, and the disease was arrested at once. But I have seen this course of treatment fail, although the large doses of tannin would check the diarrhea, still the pulse would become more and more feeble, the skin grow dark, and the system sink as rapidly apparently as if the diarrhea had not been arrested.

Dr. Bowles, of Harrison, formed a favorable opinion of Stevens' saline treatment, although the cases in which this treatment was tried were few and of a doubtful character; still it was attended with good effect.

I cannot see how the cold dash, recommended by some, or cold applications to the surface, can be of any benefit in the treatment of the disease. Reaction cannot take place when the blood has become almost too thick to circulate. Sir B. Brody, on the operation of poisons, makes some remarks which I think are peculiarly applicable to the treatment of Cholera, and shows the importance of maintaining the temperature of the body in as near a natural condition as possible. He says "that in the restoration of an animal from poison, it is necessary it should be kept in a temperature of not less than eighty-five or ninety degrees of heat of Fahrenheit's thermometer. This last precaution is, of course, a matter of greater importance when the animal is of a small size (as in the case of a cat or a rabbit) than where it is of larger; still it is not to be neglected even in the case of the human subject, otherwise the animal heat gradually diminishes until it reaches that point at which the action of the heart can no longer be maintained, when we have the singular result of an animal perishing from cold in the ordinary temperature of the atmosphere. I have not myself known the circulation to continue where the temperature of the interior of the thorax has been below seventy-eight degrees of Fahrenheit; but an experiment is stated by Dr. Chorsat, in which it had fallen still lower."

The rapid sinking of temperature in Cholera, indicates remedies to maintain the animal heat, as much so as in worst cases of poisoning. I would here remark, that having had an extensive experience in the treatment of Cholera, and tried a great variety of remedies, I have no confidence in any course

of treatment which I am acquainted with, in arresting the progress of the disease after the circulation begins to fail; but treated at the commencement of the attack, if it commences in the form of a diarrhœa, it appears to be, in a very large majority of cases, perfectly under the control of medicine.

Dearborn county has suffered severely from Cholera. It has prevailed in every township; but in Centre, Sparta, Kelso, York, and Jackson, it has assumed its most malignant form. Dr. Ashbaugh, who attended the Cholera in Sparta township, writes me that Cholera first made its appearance in that part of the county on June 14, 1849. It was introduced by a Mr. Blanger, who had just returned from Cincinnati, where he had the day before buried his father and brother who had died of Cholera. The day after his return he had diarrhœa; the next day he was attacked with Cholera and died after 4 hours illness. The next day the man who attended him was attacked. The day following, a woman residing in the same house was also attacked. Three days afterwards, another man residing in the same house was attacked and died. The Doctor writes that another "starting point" was from a man who was brought into the neighborhood from Aurora, unwell with Cholera. A few days afterwards (July 7) a young woman who attended him was attacked. On July 11th, another one of the family was attacked. The day following, also another of the family was attacked; on the 14th another, on the 15th two more, on the 17th another, also another on the 18th, making seven cases of Cholera, and four deaths, occurring in a family of eight persons.—Another point from which the disease seemed to emanate the Doctor says was in a family who lived in a retired place. The father of the family returned from St. Louis, on the 24th of June. He came up the river on a boat on which there were some 15 deaths from cholera. The day after he returned, he was attacked with cholera and died. The day following, his daughter was attacked; on the 28th, the man who assisted in laying out the old gentleman, took the cholera and died; the same day this man was burried, his wife was attacked. The disease then spread through the neighborhood; people were continually arriving from Aurora, unwell with the cholera, and it became difficult, the Doctor says, to trace the connection between the cases that occurred. The Doctor mentions one instance where the disease appeared to be communicated by bed clothes. He was attacked himself with symptoms of cholera. The remedies which he employed in the treatment of the disease, were Calomel, Opium, Capsicum, Camphor and Astringents.

Dr. Brower, of Lawrenceburgh, writes me, that there has not been many cases of cholera at that place. He states "that it is an indisputable fact, that the population residing upon our alluvial formation have, during every visitation of cholera, enjoyed a remarkable exemption from its ravages;" and I can call to recollection no cases occurring in such localities, which were not connected with great neglect of personal cleanliness or impurities in or around the dwellings; this immunity extends, also, to its congener epidemic, Dysentary, nine cases out of ten of which occurred in the dry elevated ridges or on slopes or side hills, where the lime-stone substratum was seen frequently cropping out; nearly all the cases of cholera and most of those of Epidemic Dysentary, in this vicinity, were found upon the most elevated plateaus, or in the adjacent valleys fed by small streams."

"As to its treatment, my principal reliance was upon a combination of calomel, capsicum, and camphor, in moderate and frequently repeated doses, absolute rest in a horizontal position, dry friction, chloroform lotion to the spinal column, frequent draughts of ice water, and occasionally an emetic of mustard or salt. The result of any mode of treatment, however, in advanced cases, were by no means satisfactory, and even in those who partially recovered from its first onset a large proportion eventually died from consecutive congestion of some important organ, so that the proportion of absolute recoveries was extremely small."

Dr. Harding of Lawrenceburgh, sends me a list of 24 cases which came within his knowledge, at that town, in the year 1849. He states, "the first case died in 20 hours after attacked. The second treated with large doses of calomel died of consecutive fever; the 3d treated homœpathically, died in 24 hours; the fifth and sixth died in 24 hours; the seventh died without treatment (refusing to take medicine) in twelve hours. The four next were all in one family; two died, one in 12, and the other in 20 hours, the other recovered; the 12th and 13th died in 20 hours, 14th and 15th died in 12 hours; one contracted the disease in Cincinnati, the other in Aurora; 16th and 17th, both intemperate, died without treatment in 12 and 24 hours; the 18th contracted the disease in Cincinnati and died in 11 hours; 19th contracted the disease from the last case, and died in 12 hours; 20th died in 14 hours, 21st in 8 hours, 22d in 12 hours, 23d and 24 recovered." The Doctor says "that in the above list none are included which had not actually passed into the collapsed stage of the disease. Scores of cases of diarrhœa were occurring in the meantime

which undoubtedly would have passed into cholera but for the timely intervention of remedies.

"In 1850, we had but few cases; perhaps some 10 or 15, and those mostly among strangers or persons who had been from home. But we had instead, an Epidemic Dysentary, in a very malignant form, especially on the ridges between Hogan and Tanner's Creek, and Tanner's Creek and White Water.

"In 1851 and 1852, we had occasional cases of cholera, generally occurring amongst persons who had been traveling on the river, or through districts where cholera was prevailing; not invariably so, however, and scarcely extending beyond the individual case, showing the absence of predisposing cause, as existed in 1849 and 1850.

"In October, 1852, I saw seven cases, the only ones I encountered that year. William Mattock had just returned from Ohio; he was attacked with diarrhea in the evening, and died in about twenty hours—no other cases occurred in his family, or among his attendants. About the same time, a German family arrived via New Orleans, having traveled on deck of a steamboat. The son was attacked two or three days after their arrival—he recovered; his mother, after attending him three or four days, was attacked, and died of consecutive fever: two days later, her niece, who had waited on her, took the disease and died in twelve hours. The sister of the first named young man had it, but recovered. Lastly, the two children belonging to the niece were attacked—one died in ten hours, the other recovered in a few days."

Dr. Hughs, of Harrison, Dearborn County, writes me that he saw much of cholerine, or cholera diarrhea, in 1849 and 1851, in Miller and Logan townships; the disease was generally mild, however, and easily managed. He depended in the treatment of the disease upon astringents, in combination with stimulants, anodynes, and calomel, variously combined to meet the indications.

FRANKLIN COUNTY.

Dr. Haymond, of Brookville, in this county, informs me that in 1849 and 1850, cholera prevailed to a considerable extent in that town. In 1849, the disease appeared about the 4th of July, and disappeared about the 7th of August. The first person attacked in 1849, he informs me was a German boy who had not been absent from Brookville. The disease appeared to arise spontaneously, and was principally confined to the German population. But he informs me that in 1850, cholera had the appearance of having been introduced into that place

from Cincinnati. The particulars he did not write me. He thinks that wet and warm weather favored its progress, but that healthy or unhealthy localities had no influence over the disease—neither had age or sex, but its violence was increased by intemperance. He states also that all died without exception, who were not treated until the pulse began to fail; and every one recovered when treatment commenced during the diarrheal stage. The remedies which he found most successful were calomel, camphor, capsicum, and sulphate of morphia, variously combined to meet the indications. Mr. J. Backman, of Aurora, informs me that after the disappearance of cholera at Brookville in 1849, dysentery made its appearance at that place, and prevailed to an alarming extent.

Dr. J. H. Quick, of Cedar Grove, informs me that in 1852 cholera made its appearance in that part of the county. The first case occurred July 15, and cases continued occasionally to occur for upwards of three weeks. The disease principally prevailed amongst the German population, and was entirely confined to the uplands, not a single case appearing on the river bottoms. He could not discover that unhealthy localities had any influence upon the disease. It was principally confined to adults, and both sexes were about equally susceptible to the disease. About half the cases terminated fatally. The remedies which he found most successful, were opium, calomel, hyd. cum. creta, camphor, cayenne, and French brandy.

RIPLEY COUNTY.

In this county, cholera prevailed during the summer of 1849. While the disease was prevailing at Aurora, a number of citizens went to Napoleon, a little village in Ripley county, containing about 250 inhabitants. Here the disease soon made its appearance, and assumed its most malignant form. There were amongst the inhabitants of the town and its immediate vicinity, between twenty and thirty deaths. A tavern-keeper and his hostler, in Napoleon, both died. One of the physicians was severely attacked, and his wife died during his illness. Near Versailles, cholera also made its appearance. A man by the name of Ireland, who resided a few miles east of Versailles, visited Aurora at the time cholera was prevailing in this place, on the 6th of July, 1849. The day after his return home, he was attacked with cholera and died. The day following, another one of the family was attacked and died; and cases continued daily to occur until nine of the family died. Several of the neighbors were attacked; and one who had been in attendance on this family died. About this time dysentery began to prevail in this part

of the county, and in many instances assumed a very malignant form.

OHIO COUNTY.

Dr. D. H. Jessup, of Rising Sun, writes me that cholera made its appearance at that place on the 30th of May, 1849. He states "there had been some predisposition to bowel affections, and a few cases of vomiting and purging of rather a violent character. But the first well marked case occurred at this date; it was in town, and the subject was an old man who had been for many years addicted to the use of ardent spirits. The disease in this case originated here, this man not having been from home, or in any manner exposed to the disease as occurring in other subjects. It ought to be mentioned that he had eaten freely of green peas, and other similar food, the day previous to his attack. This case was well marked, and a very violent one, and proceeded rapidly to a fatal termination. No precautions were used to prevent the spread of the disease by contagion; yet no other cases occurred in town for weeks—showing, so far as this single case is concerned, the disease neither originated from contagion, or spread itself by this means, even under circumstances the most favorable. The disease showed itself again in the latter part of June, on the opposite side of the river, in Kentucky. This case also originated spontaneously—that is, there had been no communication or intercourse with infected persons or places. This was a malignant case, and, like the first, proved fatal, though not quite so rapidly. As is customary in the country, a large number of friends and relations were constantly present, and assisted in taking care of the sick man. Shortly after they had dispersed to their homes, in various and distant parts, several of them were attacked simultaneously with the disease, part of whom died. In this case, like the first, the disease seemed to originate spontaneously, but unlike it, seemed to spread by contagion." The Doctor also remarks—"That in regard to the contagious or non-contagious nature of the disease, I am satisfied in my own mind of its contagiousness. It is not necessary, to establish this view, that it should prove contagious in every case and under all circumstances. This is more than is required, and more than can be shown of any other disease, the contagiousness of which is admitted. Neither is it necessary to prove that it is contagious to the same degree of other diseases, as it may readily be conceived that one disease may be more eminently contagious than another. I am not prepared to say, that a case of cholera occurring in a region where there is no

general choleric influence, will be as likely to effect those exposed to it, as if it had occurred in a region where that influence was prevailing. Neither do I believe the general mode of its spread or propagation is by contagion, in the common sense, from person to person, as whole towns and communities may be affected simultaneously, as was witnessed at Maysville and many other places—thus precluding the idea of contagion in those cases. Still I am inclined to the opinion, that in very many cases intercourse with those affected is the exciting cause of an attack. When we see friends and relatives, who have attended the sickness and burial of a cholera patient, after leaving the place, simultaneously attacked with the disease, in preference to their neighbors; and more particularly when we see persons leaving infected regions and going to regions where the disease is not prevailing, attacked with the disease contracted before leaving, and then in turn see those who attended them attacked, instead of those who kept away, we are apt to conclude there is an element in the disease very nearly akin to contagion. I think I have seen too many such examples to regard them as mere coincidences."

The Doctor writes—"The disease prevailed to a considerable extent during the months of July and August, and to a greater extent on the Kentucky than on this side of the river. It reappeared again the following summer; but there were fewer cases, and the proportion of deaths smaller. The summer and autumn of 1851 and 1852 were characterized by the general prevalence of dysentery. There was no sudden disappearance of cholera, or sudden appearance of dysentery. There were some cases of dysentery the last season of cholera, and some cases of cholera the first season of dysentery; but, speaking in general terms, the cholera seemed to merge itself into dysentery, and as the former receded, the latter advanced and took its place. Our city suffered less than the surrounding country. In fact there were few well marked cases in the town, and of these few cases some originated abroad, so that the number of undoubted cases of cholera arising in Rising Sun is quite small. Of the cases that occurred in town, the proportion of deaths was less than in the country. This fact may be owing in part, at least, to the circumstance that medical advice was obtained earlier in town than in the country. Many cases that passed as ordinary diarrhea in town, would probably have run into cholera had the patient lived in the country. In town, the fatal cases were probably 10 per cent, and in the country 20 per cent, of the number attacked. Another reason why persons in town suffered less than those

exposed to the disease in the country, is the fact that they were more cautious in indulging in those articles of food that are known to have a tendency to provoke intestinal irritation, such as crude and unripe fruits and vegetables. The water used in town is rain or soft water, and that used in the country generally well or spring water, impregnated of course more or less with lime.

"I am not aware of any general cause, or causes, that favored the progress of the disease—such as atmospheric changes, healthy or unhealthy localities, &c. I did not observe that age or sex exerted any exemption or modifying influence over the disease. Habits of life unquestionably had a great influence both in predisposing to attacks, as well as in exciting them. Many cases were undoubtedly brought on by the use of green vegetables and fruits, and amongst the most pernicious of these I rank new potatoes. I have known pieces of potatoes and peas pass the bowels with each serous discharge until the patient died. Those who were exposed to severe bodily labor during the harvest, when the weather was hot, were many of them attacked with cholera symptoms.

"In regard to treatment, I have but little to say. In the early stages of the disease, I generally relied on a combination of opiates and mercurials, sometimes with the addition of camphor or aromatic chalk powder. In the large majority of cases, these remedies, with perhaps an opiate suppository or starch and laudanum enema, proved sufficient for the arrest of the disease. When they failed, and the case still progressed, I was generally about as successful with one plan of treatment as another. I tried Dr. Ayer's plan in a few cases, part of which recovered and part died. As to particular medicines, I placed more reliance on opium, acetate of lead, and calomel, than any other articles, though I frequently used others. The main indications I kept in view, were to allay intestinal irritation, restrain the serous discharge, and alter the secretory action. The indications seemed to point to the use of opiates, astringents, and mercurials."

SWITZERLAND COUNTY.

In this county, there were a few cases of cholera in 1849. Mr. Joseph Pierson, who resided in this county during the prevalence of cholera, writes me that there were only three deaths from cholera at Vevay that year. They were persons left there by steamboats. He also informs me that during the months of July and August, 1850, there were twenty-eight deaths from the decease at Mt. Sterling, a little village a few miles north of Vevay. There were a few other cases also in

the county. He states that the first appearance of the disease was amongst persons who had been abroad, and were laboring under its influence when they returned. The cholera at Mt. Sterling was not confined alone to persons of intemperate habits. "Both sexes were equally susceptible to the disease. While the cholera was prevailing at this place, the weather was unusually sultry." He also states "that at Mt. Sterling, nearly all the cases proved fatal."

JEFFERSON COUNTY.

From this county, Dr. Cogley, of Madison, writes me that cholera made its appearance in that city, on February 14, 1849. On that day there were seven deaths. It immediately subsided, but returned again during the summer, and prevailed as an epidemic. Of the number of deaths or cases he did not inform me. Each summer since 1849, sporadic cases of cholera have occurred; last summer, he writes, there were but few. He thinks the disease arose spontaneously, and the remote cause, whatever it may be, exists in the atmosphere. He thinks that poverty and personal filth favored its progress; but he thinks it doubtful whether healthy or unhealthy localities had any influence over the epidemic. He believes that cholera is influenced by atmospheric changes; he writes, "that it invariably prevailed most in wet weather, and gradually subsided when the atmosphere cleared, and became almost extinct when the weather was settled and fine." He says, in reference to its mortality, that when the disease passed into a collapse, scarcely one in twenty recovered; but when it was treated early, there was not more than one in twenty that terminated fatally. In the treatment of the disease, he generally gave at first an emetic, composed of three grains of sulphate of zinc in combination with ipecacuanha; after its operation, he generally depended upon calomel, opium, acetate of lead, camphor, piperine, soda powders, ice water, &c., and administered these remedies as symptoms required, at the same time applying sinapisms to the stomach and warm applications to the extremities, and keeping the patient in the horizontal position.

Dr. Rodgers, from Madison, also writes me that the disease began to prevail as an epidemic in June, 1849, and entirely disappeared in September. The disease appeared to arise spontaneously, and that east winds, cold nights, and malarious localities favored it progress. He considered the disease generally manageable when treated early. The principal remedy he depended upon was calomel in large doses.

JENNINGS COUNTY.

Dr. J. C. Burt, of Vernon, writes me—"That there were in all about fifty fatal cases in this county—forty or more in the summer of 1849, and seven last winter. In 1849, it prevailed in three different localities, each about twelve miles distant from the other. In each of these the first cases were persons who came from places where cholera was prevailing, and had, I think, in every instance waited personally upon persons who had died of the disease. The nurses and attendants of these persons were those next attacked; and precisely in this way did the disease progress until the epidemic terminated. In every instance the persons attacked had been placed in a situation to inhale the emanations of those personally attacked, either by personally attending upon the sick, or by sitting up with the corpse, or by washing the garments or bed-clothes of those who had died.

"Scattered as these cholera localities were in different parts of the county, it would be quite a task to go into a statistical detail of names, ages, periods of the duration of the disease, &c., all of which can be had if necessary. I have repeatedly conversed with the practitioners of the county whose field of practice embraced these localities, and every one will corroborate the statements I have made.

"The length of time which the epidemic lasted, last winter, was so brief, and the cases so few in number, I will give the history in detail. On the night of the 30th of November, a stranger from off the Ohio river, stopped all night at the house of Lanahan, an Irishman, living in the town of Vernon. In the night he had an attack of diarrhea, but was able the next morning to travel, and went off and was not heard of afterwards. In the afternoon of the next day, a child of Lanahan's, ten years old, took the cholera, and died in twelve hours. In three days afterwards, Lanahan's wife took the disease, and died after two or three days' illness. On the 7th of December, three men—Burk, Dougherty, and Ford—all of whom had attended the wake of Mrs. Lanahan, were attacked and died in a short time. On the 9th, Sally, who had waited upon Ford, was attacked, and lived about twelve hours. The next and last case was McManamie, who had visited Sally; he was attacked shortly after, and died after three days' illness." The Doctor concludes his letter by saying—"As to the bare question, is cholera a contagious disease? I don't see how any person who has been in the least observant of its history and progress here in the west, can give any other than an affirmative answer."

Dr. P. Hill, of Madison, writes me that the principal remedies used in the treatment of cholera at Vernon, were calomel, opium, camphor, and capsicum.

BARTHOLOMEW COUNTY.

Dr. J. W. Conway, of Taylorsville, writes me that cholera prevailed in that county to some extent in 1849, 1850, and there were a few cases in 1851. He says—"Not being in the county at that time, I am unprepared to give statistics."

DECATUR COUNTY.

In this county there has been but few cases of cholera. Dr. G. W. New, of Greensburgh, writes me there has not been a case since 1849. Dr. G. W. Moody, of Greensburgh, informs me that in September, 1849, there occurred five or six cases resembling cholera at that town, two of which proved fatal. The first case was a gentleman who was attacked the day after his return from Cincinnati, where the cholera was at that time prevailing. He treated the disease with camphor, capsicum, and calomel.

SHELBY COUNTY.

Dr. Milton Robins, of Shelbyville, informs me, "that cholera made its appearance in that town on the 10th of July, 1850, and remained about three weeks." He writes—"the first case was a traveler from Cincinnati at one of our hotels; he recovered so as to leave for home. A day or two afterwards, the landlord took the disease, and recovered. Immediately after his recovery, three others in the family were attacked and died. Across the street from the tavern, two others took the disease and died. Some persons from a distant part of the town were with them, who immediately contracted the disease and died. After this it seemed to go without any regard to contagion; yet it was principally confined to one part of the village. After the first few cases, immediate contact with the sick seemed to have no effect in spreading the disease. During the prevalence of the epidemic, all our citizens were affected with diarrhea, or a rumbling and pain in their bowels, with loss of appetite and sickness at the stomach. It is said all the birds left the village during the prevalence of the epidemic. Several conies, pet squirrels, and dogs died while the disease was prevailing. The dogs vomited like their masters.

"It is difficult to say what proportion of cases recovered after urgent symptoms occurred. Yet some of our physicians could count their fifties, or almost hundreds of cures; while others, equally as intelligent, thought that treatment after true

cholera made its appearance, had but little effect in abating the mortality. The stimulating plan of treatment was most popular—consisting of brandy, capsicum, camphor, essential oils, ether, &c., with sinapisms to the stomach, back, and extremities. The mortality was between fifteen and twenty. The next season dysentery prevailed in Shelbyville, and was more fatal than the cholera. It, like the cholera, was confined to certain parts of the town, although the localities attacked were not considered the most unhealthy." The Doctor thinks that neither changes in the atmosphere, habits of life, age, sex, or locality, had any influence over the disease.

RUSH COUNTY.

Dr. John Moffett, of Rushville, informs me that there has been but few cases of cholera at that town. In 1851, there were three deaths from this disease; they occurred in the family of a man who had returned a few days previous from off the river, and it was supposed that he introduced the disease into the place. The Doctor thinks, however, that the evidence that such was the fact, is by no means conclusive. He informs me that diarrhea has prevailed to a considerable extent in that town and neighborhood since the appearance of cholera in the country.

UNION COUNTY.

Dr. A. B. Casterline, of Liberty, writes to me "that cholera prevailed in that town and county, in 1849, during the months of July and August, and not since then. The disease appeared spontaneously. The causes which favored its progress were want of cleanliness, and permitting the decay of animal and vegetable matter within the locality in which the disease was prevailing. Its influence was felt in nearly all parts of the county, there being a predisposition to diarrhea and dysentery."

He states, "that when the intemperate were attacked, it was nearly always fatal. It occurred mostly among persons of middle ages, both sexes were equally attacked." He says, "that when the atmosphere was warm, dry and sultry, then, and with that condition of the atmosphere, the disease progressed most rapidly; but, on the other hand, a cool and gentle breeze had the contrary effect." In reference to the number of deaths in proportion to the number of cases, he thinks there were about fifteen out of two hundred. He says the remedies employed were tonics, stimulants, antispasmodics, and narcotics, in combination; also warm external applications, par-

ticularly to the lower extremities, "and in some cases it was necessary to resort to alteratives, calomel being the best."

WAYNE COUNTY.

Dr. John T. Plummer, of Richmond, informs me that cholera appeared at that place in 1833, 1834. and 1849, as an epidemic, and they have had sporadic cases in subsequent years. He writes, "our town population is about three thousand. We are situated on an anticlinal axis of Trenton limestone, among the head waters of the White Water river. He states that in 1849, it seemed to have been brought into Richmond by physicians who visited patients at Boston, six miles south of us." He thinks "that fear and filth were causes that favored the progress of the disease, although families the most cleanly in their habits were often attacked. It was also probably aggravated by low, damp situations; but the healthiest places were by no means exempt from the disease. The temperate and intemperate, all ages and both sexes, were indiscriminately attacked." He also writes that he had not been able to discover that any unusual condition of the atmosphere had more influence over this, than other diseases. In the treatment of the disease he states, "of those prescribed for early, not more than one-tenth died; of the collapsed cases about one-half recovered." The remedies which he depended upon "were calomel and Dover's powder, with perfect quietude when practicable." These, the Doctor says, "were unquestionably efficient means."

Dr. V. Kersey writes to me that at Milton, in this county, there were no cases of cholera.

HENRY COUNTY.

I have been informed by Dr. Joel Reed, of New Castle, that cholera prevailed in that county in 1833, and continued about two months, July and August. He writes, that the disease was brought into the county, and in every instance could be traced to an exposure, to some one laboring under the malady. He says that at that time there were 40 cases, and 18 deaths. He does not write whether the disease has ever prevailed in that county since; by his silence we infer not.

GRANT COUNTY.

Dr. Lomax, of Marion, informs me that in July 1849, diarrhea and cholera morbus prevailed in that county to a considerable extent. The epidemic was generally mild, but in two localities it assumed a more malignant form, and there were

some five or six deaths in each; the patients dying with symptoms resembling cholera. He also states that the disease in these localities appeared as if communicated from one individual to another.

ALLEN COUNTY.

From this county I received information from Dr. B. S. Woodworth, of Fort Wayne. He informs me that cholera prevailed in that city and in the surrounding country, during the summer and fall of 1852. He states that the first case that occurred at Fort Wayne "was a German who went to meet his brother, who was emigrating to this part of the country. The brother died of cholera on the canal boat between Toledo and this place. The next day after the German returned home, he was attacked with cholera and died. On the following day a girl about 10 or 12 years of age in the same house died with the disease. On the next day a German boy aged 10 years, living two squares from the house where it first appeared, was attacked and died after 10 or 12 hours illness. The first case occurred on the 25th of July. There were no other cases until the 9th of August, when it broke out in a row of old, damp, filthy, dilapidated buildings, occupied by French and German families, most of these recent emigrants. Some 10 or 12 died at these buildings in the course of a week. From the 9th to the 15th of September there were a few cases almost every day in various parts of the town. After the 15th of September there was but one case in town, this was on the 28th. As to whether the disease was introduced, or appeared spontaneously amongst us, it is difficult to say. There was a great predisposition to the disease in the community, for several weeks previous to its appearance, diarrhea and dysentery being unusually prevalent, besides solitary cases occurred in the county in various directions where there had been no exposure to contagion." "The principal predisposing cause seemed to be unacclimation—previous ill-health—filthy habits—living in low, damp, unventilated dwellings—fear, &c. The principal exciting causes were intemperance, in eating and drinking—living on unwholesome or insufficient diet, and especially overloading the stomach with crude, indigestible vegetables; as to locality, it appeared almost exclusively in the lowest and dampest places in the town, in houses having wet cellars or stagnant water under them. Want of elevation seemed to have a great effect in favoring its progress, neither age or sex had any influence over the disease, but the intemperate were especially liable to be attacked. Atmospheric changes had a marked influence

upon the epidemic. A cool and humid atmosphere, succeeding a warm and dry one, was calculated to increase the disease. I noticed particularly that at the commencement of every North East rain storm, several of which we had during the prevalence of the epidemic—there was a great increase in the number of attacks and that it abated when the weather became clear and dry. The number of deaths in proportion to the number attacked, we cannot accurately nor even approximately specify, I may say that it was at least 3 out of 4 —that is to say, that three-fourths of the number, who had what we called cholera, viz. vomiting, purging, and cramps died. Many had slight attacks, who recovered by abstinence, and a few doses of laudanum and camphor."

"With regard to treament, I have nothing new to offer. Mercury was given in one half the cases, but it seemed to have no influence upon the disease. Stimulants, opiates, and a host of mixtures that were freely given, only hastened the fatal result. The treatment which I found the most successful was very simple. I first put the patient into a warm bath of the temperature of 110 or 120 to bring about a reaction if possible, when the bath was practicable, if not I used all the external heat the patient could bear ; such as bottles of hot water, sinapisms, dry frictions, &c., &c,. I gave ice to allay the irritability of the stomach and bowels, and some simple astringent, generally a vegetable one—such as tannic acid, catechu, kino. I preferred tannin. I sometimes gave acetate of lead ; I also gave enema of the same. I carefully avoided stimulates and opiates, I have seen many cases where it was difficult to tell whether they died from the disease, or from congestion of the brain, produced by acohol, or opium, or both. Quinine was given in several cases with apparently good effect." The Doctor closes his letter by stating, that he is not fully convinced of the "contagiousness of cholera, or that it spreads by the communication of the infected, with the healthy."

WABASH COUNTY.

Dr. S. G. Thompson, informs me there were no cases of cholera in this county.

FULTON COUNTY.

Dr. Charles Brackett, of Rochester, writes to me that the cases resembling cholera which occurred in this county, were sporadic. There were occasional cases of this character from the summer of 1849 until the fall of 1851. He says, "we had no deaths from this disease, and but very few cases that were not easily controlled by remedies as a general thing."

CARROLL COUNTY.

Dr. H. W. Beck, of Delphi, informs me that there were several deaths from cholera in that town, in July 1849, the only cases that occurred in the county. The disease appeared to arise spontaneously, although he says that one of their citizens went to Lafayette 18 miles distant, during the prevalence of the cholera there. A few days after his return, a man living in the adjoining house to his, was attacked with the cholera, and died, and the disease prevailed in this family until there were seven deaths. The family attacked had not been away from Delphi, and the question may be asked, did the disease arise spontaneously, or was infection communicated by the man on his return from Lafayette? This man was not unwell. It should be borne in mind, that Delphi is on one of the principal thoroughfares leading from Lafayette, and the disease may have been communicated otherways.

BENTON COUNTY.

Dr. A. Hurd, of Oxford, informs me that cholera has not prevailed in this county.

TIPPECANOE COUNTY.

I received information from Dr. McFarland, of Lafayette, that cholera made its appearance in that city on the 3rd of July, 1849, and disappeared about the middle of September. He says, that the first case that occurred was a man who had just arrived from Louisville, Ky,, where the disease was then prevailing, and the next case, and succeeding cases, were traceable to it. A damp atmosphere, in combination with a South west wind, seemed to increase and favor the malignancy of the disease. It was not influenced by locality. It prevailed upon the healthy and unhealthy localities alike; neither age or sex had any influence over the disease; but intemperate habits had a predisposing effect. About one-fifth of those attacked, died, and very few if any recovered who passed into the collapsed stage of the disease. In reference to the best mode of treatment, the Doctor says, "there was great diversity of opinion, and he could advance nothing new. The total number of deaths at Lafayette from cholera, were one hundred and thirty; but during the prevalence of cholera, and after it had subsided, dysentery and diarrhea prevailed as an epidemic, and from these diseases, in addition to those produced from cholera, there were over 300 deaths."

CLINTON COUNTY.

Dr. C. J. Miller, of Frankfort, writes that several deaths occurred from cholera in the vicinity of that town, in August,

1849. He says it was brought into the neighborhood from Lafayette, by a gentleman whose family took the disease and died. He states that the only cause which produced cholera in his neighborhood, was communication with the sick. Locality had no influence over the disease, that he could discover. The number of deaths to the number attacked, were about 4 out of 6. The principal remedies were camphor, opium, and capsicum.

MONTGOMERY COUNTY.

I have been informed by Dr. T. W. Florer of Alamo, that cholera has not prevailed in this county.

MADISON COUNTY.

From this county Dr. Clay Brown, of Anderson, writes me that "there has never been any cases of Asiatic cholera here; but during the summer of 1849, 1850, and 1851, an epidemic form of diarrhea and dysentery prevailed very extensively throughout the county."

MARION COUNTY.

Dr. W. R. Smith, of Cumberland, informs me that cholera made its appearance at that place on the 6th of August, 1850, and disappeared on the 24th of the same month. He writes that "the first case was a young Frenchman recently arrived. He had been at Indianapolis, and in communication with friends sick with cholera. He was attacked with diarrhea the evening of his return, I saw him the next evening, and found him in the collapsed stage of cholera. The next evening, the family where he was staying at, who were also French, re-recently arrived, ate a very hearty supper of meat and beans, and about two o'clock the following morning, two were attacked with diarrhea. I was not called until 10 o'clock, A. M., and both died, between 12 and 1 o'clock the same day; one was 45 years of age, the other his little son 8 years old. In this house, which was a small frame with two very small rooms, and badly ventilated, there were about twenty persons, all French; the whole of them eating and sleeping in this house. Nearly the whole number had cholera in its worst form. Besides these cases the French in the neighborhood, who visited and attended on the sick, were very generally attacked. The native portion of the community mostly escaped the disease. There were several cases amongst the Germans; but they had also communication with the sick. I saw no case of this disease that had not communication with cholera patients. One case, a German, although living entirely out of the infected neighborhood, visited and attended on his brother until he

died, and then helped to bury him—took the cholera the same night, and died before noon the next day. Dr. Edwards, of Palestine, came up to see some of my cases, the Doctor never having seen a case of Asiatic Cholera; he returned home, took the disease that night and died." The Doctor says that locality appeared to have no influence over the disease; neither had age or sex. Atmospheric changes also appeared to have but little influence, for while the cholera was prevailing, the atmosphere was clear and dry, and the weather warm.

The Doctor also writes, "Having lost nearly 40 per cent of my cases of confirmed cholera, I do not know that it will be of much benefit to detail my treatment except to show that its success has not proved it to be the best that could be done. If I saw the case before it was absolutely moribund, I at once administered an emetic cathartic of calomel and ipecacuanha; and after its free emetic operation, I gave the following in doses as the symptoms required: ℞.—Tinc. of opium oz. ii; Tinc. of best African Ginger, oz. ii; Ess. of Peppermint oz. ii; Sulph. Ether, oz. iss; Tinc. of Camphor, oz. iii; Tinc. of Kino, oz. ii; Brandy, dr. x; Syrup half a pint; shake well. In very bad cases I also administered capsicum, and gave camphor quite freely. I generally gave to all the following: ℞. —Calomel, gr. ii; Camphor, gr. i; Acetate of Lead, gr. jss; Gum Arabic sufficient to make a pill; these were given every three hours. In the cold and pulseless state, I enveloped the patient in a blanket, wrung out of water as hot as he could bear. This I found serviceable in relieving the cramps, which were the most unpleasant symptom. To some of my cases, I applied bottles of hot water and hot bricks; but I preferred the blanket. At the same time cholera was raging here the entire community was generally affected with serous diarrhea."

Indianapolis.—Prof. J. S. Bobbs, furnishes the following information of the prevalence of cholera in this city.

Dear Doctor:—In the night, July 31, 1849, I was called to the first case of Cholera, occurring under my observation in this city. Two Irish laborers came to town about two weeks before, from the vicinity of Laurel, Indiana, whence they had been driven by the presence of the disease. They had eaten a very hearty supper, after having worked in a brickyard the previous day, and having drank copiously of water, according to their own representation, and were seized with violent vomiting and purging during the night—followed by cramps, and the other symptoms of cholera. The vomiting and purging were gradually arrested, the cramps were more persistent. The one patient died the following morning, reaction followed by several days fever ended in restoration to

health in the other. The father, sister, and an adult brother, with some children, occupied the same room with these patients, during part of their illness, and some of their friends visited them. The house was old, dilapidated, and comfortless, at best, was nausesome from the accumulated filth, arising from carelessness, and disproportion between the space and number of occupants. No other members of the family were seized, and so far as we are apprised no other cases of cholera occurred that season among those subject to exposure in that quarter.

One, or perhaps two cases, reported to have been cholera, and ending fatally, fell under the care of other physicians here, that season. They were among emigrants recently arrived, who had passed through districts where it prevailed; but I have no particulars of their cases.

The first summer month in 1850, was characterized by a marked predilection to involve the bowels in all the forms of disease which existed. These were in some instances diarrheaic, in others dysenteric, and in others again both—the first from the small bowels, and the other from the large. As the summer advanced, more decided evidences of a sickly season were manifested, at a period unusually early, and the predominant type assumed from the first, become more decidedly developed; until little else fell under the observation of the physician but dysentery, diarrhea, or diseases of which one of these constituted an essential part. A great many were ill throughout the community, but during the first summer months the mortality was not so great as it became later in the season. During this time no marked cases of cholera were observed.

The same night, July 31, 1850, giving one year's interval, at 4 o'clock in the morning, I was called to see a German grocer, living near the centre of town. Another physician had been previously summoned, and finding the patient verging on the collapsed stage of cholera, requested me to see him. The vomiting and purging were promptly arrested, the spasmodic contraction of the muscles were more protracted. He died at nine o'clock the same morning. The marked cholera symptoms had set in between eleven and twelve; but he did not call his physician until between three and four o'clock. He had been harrassed with diarrhea for a month before the complete development of the cholera.

A short time before this case occurred, a German emigrant, who had returned to Germany to bring his family, had arrived, and shortly after was taken with cholera, with which he died. Some other emigrants who came with him, were also attacked. During his illness he remained with a German resident, C. H.,

who had not been absent. This man was subsequently attacked, and during his illness, and after his decease, the wife and a son of the grocer, just mentioned, were with him. Being intimate acquaintances, the sudden and unexpected death of C. H——, greatly distressed and alarmed Mr. R——, the grocer. No other member of either family were attacked. The former had a wife and several children, the latter a wife and six children. Mrs. R. and her daughter were attacked with diarrhea, followed by some fever, but no other cholera symptoms. The abrupt decease of Mr. R., produced considerable sensation in the community.

August 1st, Wm. P. S., resident of Madison, Indiana, who had charge of the Railroad running to Shelbyville, Shelby co., and where he had been actively employed during the prevalence of cholera at that place, requested me to see him at a Hotel, at which he had just arrived. He had vomiting and purging of a suspicious character, but no cramps beyond involuntary muscular twitchings. He was greatly alarmed and much excited, under the conviction that he had cholera in its worst form. A very liberal mustard emetic soon enlisted his solicitude more particularly for his stomach, and copious emesis being followed with an anodyne, and small but repeated portions of a mercurial, he progressively improved, and in a few days was able to accompany his wife and son home, whence he had brought them in his state of apprehension. A number of persons visited Mr. S. during his illness, but we are not aware that any of them contracted the disease.

In the latter part of July, P. S. was attacked with vomiting and purging, which were represented to be copious and greenish, accompanied with some cramps, copious perspiration, and oppressed breathing. These symptoms were allayed without much trouble, reaction ensued, followed by fever, and in a couple of days by delirium tremens. He resided in the North west part of the city. His son, G. S. was at work in a gravel pit at the north east margin of the city. The pit was several feet below the surface of the ground, and thus the laborers were cut off from a circulation of air, and the weather being warm, they drank copiously of water. He resided with his father, and on the 2nd of August in the evening, called at my office to know how his father was progressing, saying he had quit work several days, because he had not felt very well. August 3rd.—Early in the morning was called to see this G. S. Found him in the collapsed state of cholera. He died before noon. His father had been troubled with diarrhea, for which he had taken a number of cholera nostrums, that the apothecaries advertised, up to the day when he was attacked with

vomiting. The son provided himself too, and on the night of the 2nd day of August, took a large allowance of something that was warranted to cure or prevent cholera. Before day his bowels required him to go out several times, and the last time remaining longer than usual, his wife went to see after him, and found him laying in the garden unable to reach the house. I found him cold, blue, shrivelled, pulseless, and vomiting at short intervals. But his chief distress was the cramps, which seemed to seize all the voluntary muscles at intervals, and were very violent. Diarrhea, with occasional vomiting, but presenting no characteristic of cholera, seized several other members of the family. They were generally controllable, were followed by fever, and recovered, as did also the father after a protracted illness. The alarm became so general that few persons visited the family during their illness.

August 4th.—Visited Mrs. G. R., who had just removed to the South east surburbs of the city into a new house. She had been vomiting and complained of great distress of the stomach. Bowels lax and occasionally painful. She was greatly alarmed, as her residence was near those of a number of German emigrants, many of whom were said to have died, or were then ill with the cholera. During the next ten days she passed through a pretty severe attack of dysentery, but had so far recovered as to be about, and I had ceased visiting her. On the evening of the 14th, she sent for me to advise her as to the propriety of her removing to the country for a while, as she felt assured she would take the cholera where she then was, being near the most afflicted part of the city. I urged her to do so, and she made arrangements to remove the next day. Early in the morning of the 15th of August, was sent for to see her. She had the usual symptons of cholera, soon collapsed and died at noon. Taking a great interest in her case, I watched her with much care. The vomiting became less, as did also the purging seemingly, and the cramps somewhat abated. But just before her decease, the bowels discharged with scarcely any intermission. The restraining injections had prevented their evacuation ; but effusion seemed to have been going on, and when all control of the sphincter was lost in articulo mortis, the contents of the bowels ran away.

The first case to which this report for 1850 alludes, occurred in the north east part of the city. The second near the center. The third was imported from Shelbyville. The fourth and fifth, in the north west part of it, and the sixth in the south east. They cover a period of about three weeks. Our citizens generally discredited the first reports of cholera, and up to the middle of August, its prevalence continued to be

questioned. Even at present many can be found who deny that we ever had cholera here; but it is among those who never believe until they see themselves, and they will never see the cholera, unless it steps into their own dwellings. While we had many that acted the part of the good Samaritan, there were those who passed by on the other side, and were too prudent to verify by their own observation, the correctness of reports authorized by the doctors.

During the month of August, the disease increased, was probably at its height about the first of September, and had pretty well ceased by the end of this month. Dysentery prevailed at the same time with the cholera, and as the season advanced, the former became epidemic, as the latter receded. Among the native or long resident population, dysentery was very prevalent, and often fatal; but these were rarely seized with cholera, in comparison with those who had recently emigrated. These were mostly Germans, and a number of families having recently arrived, were crowded into other families already scantily provided with room, or huddled together in masses, without comforts, conveniences, or care. Probably over two-thirds of those who were ill, received their advice from irregular practitioners, and the mortality was very great among them, in some instances sweeping large families out of existence. But whether from cholera, or dysentery, or some other form of disease, could not always be known; as these irregular practitioners habitually called every thing cholera, that came under their care.

It is also impracticable for the same reason to estimate the number of deaths from the disease. We should suppose, however, fifty to be a modefate estimate, nearly all of whom were among our foreign population. Our soil is alluvion deposited upon sand. Running from the north east to the south west, Poague's Run cuts off an angle of the city. This south east angle is the highest part of the city, and is a clay soil. Along the base of the rise, a channel had been recently cut out for Poague's Run, and south of but adjacent to this, the population was chiefly of these Germans. Among them however, were interspersed native citizens, and some who had lived here all their lives. This portion of the city suffered greatly more than any other. Few persons lived there during the season, and escaped having either cholera or dysentery, and whole families, both foreign and native, were broken up with one or the other of these diseases. The mortality was also beyond all proportion in this portion of our population. Except this part of the city, no marked exemption or prevalence of these diseases was observable—the dysentery especially,

prevailing more or less through all parts of the city. No obvious causes could account for the marked preference given by the disease to this angle of the city. Its eastern limits were bounded by a strip of woods, immediately beyond which, a number of hogs were fed by some butchers from the offal of slaughter houses, and the swill and garbage of the city. This place was said to be very offensive, and we have heard citizens resident in that part of the city, say it was particularly so after night. There was much complaint in reference to this matter from those living there, and many of them ascribed the prevalence of the disease to this cause.

The new channel given to Poague's Run, as also some excavation and embankment for railroad purposes in this part of the city, exposed much new soil to the weather. This soil was deposited by the run, and was chiefly vegetable, mixed with some animal debris. In the opinion of many, this had much to do with producing the disease.

About the time the disease reached its height in the city, occasional cases were reported in the country about; but no general prevalence of the disease occurred here. August 28.—Visited J. H., about three miles from town, and found him with all the characteristics of cholera. His habits were dissipated. He had been in town a few days before he was attacked, but not where there was any cholera that he was aware of, although he believed he had contracted the disease there. He died on the 30th. His wife was taken immediately after, and died with all the characteristic symptoms of the disease in the hands of another physician. His daughter, Mrs. J., who resided in the city, visited her father and remained with him during his illness. Sept. 1st.—Visited her at her father's residence when she had all the characteristic symptoms of cholera. The vomiting and purging and cramps abated during the day. The ensuing night violent uterine hemorrhage supervened, followed by great prostration, and death the night of the 2nd of September.

We are not aware that any other cases occurred in this neighborhood, where exposure was traced to this house. No other member of the family, which is large, contracted the disease, although several of them had diarrhea. Owing to the alarm, not many persons visited them during their illness.

Nov. 13.—Visited Mr. V., member of the Legislature from Shelby co. He had been troubled with diarrhea several days, when vomiting and cramps supervened, which induced him to send for me. He had taken a number of things to arrest the diarrhea at the suggestion of others; but without avail. He had all the symptoms of the disease, and the same night collap-

sed and died soon. Mr. K., member from Henry co., roomed beside him, and had suspicious diarrhea ; but it was arrested without developing any further evidences of cholera. No case of cholera had been in the city for several weeks before, and none followed this one. He had been exposed to the disease in Shelby co., when it prevailed there.

As an example of the violence of the disease, we will give an instance. Before day on the 20th of August, we were called out. Passing a small shoe shop, the door of which was open, we observed a person on a cot. It arrested our attention so, that we stepped in. It was a young woman of about 18 years, in the collapsed stage of cholera. She belonged to a German emigrant family recently arrived. Since which she had lost her mother, and several brothers and sisters. The previous evening being acquainted with the shoemaker, to whom she was engaged to be married, she called to see him on an errand, when she was taken ill and could not get home. The shoe maker had called an irregular doctor, and was doing his best to carry out his instructions, and was the only nurse the poor girl had. During our absence he left her alone in the shop to bring her father, who resided perhaps a mile off, in the most infected district. The two were with her on my return ; but she was hopelessly collapsed. Early in the morning I passed again. She was dead, and had already been carried to her grave, or somewhere else, we believe the former.

On the subject of treatment, we have but little to say. While we put in requisition most of the means creditably recommended, we were not flattered with the result. We had no great trouble in arresting vomiting and purging by astringent injections and anodynes ; but when the mucous surfaces desisted throwing off discharges, the skin was apt to take up the office, and generally executed it quite as efficiently. The cramps were mostly in the extremities ; but the other muscles were often involved in them. Left without attempts to relieve them, they were frequent, painful, and exhausting ; and to bring them under the subjection of an anodyne was apt to reduce the patient to an undesirable state of stupor, in which he would sweat to death, or be visited by dangerous reaction. We always employed mercurials in some form, where our patients got well ; but they did not always get well where we employed them ; and in violent cases, we believe they are too slow in their action, however appropriate they may otherwise be. We believe we have read every thing on the treatment of cholera which has fallen in our way, and have had some opportunity for observation ourselves. Still we believe we

would treat it quite as satisfactorily to ourselves, if we had never seen or heard of it, as with these seeming advantages. Sometimes my patients got well, and I hoped I had contributed to the result; sometimes they died, and I fear I did the same; and frequently I thought the treatment neither good nor bad, so far as it influenced the issue.

JOHNSON COUNTY.

In this county there were but few cases of cholera. At Franklin, the county seat, I have been informed there was not a case.

MORGAN COUNTY.

Dr. David Hutchinson, of Mooresville, writes me that there has been no cholera at that village; although in 1850, while cholera was prevailing at Indianapolis, they had frequent cases of diarrhea, or cholerine. He states that the principal diseases for the last three years, in the neighborhood of Mooresville, were dysentery and typhoid fever. Last summer, dysentery and scarlatina prevailed at that place.

Dr. G. B. Mitchel, of the same place, informs me that cholera made its appearance at Martinsville, the county seat of this county, in 1851, on the 15th of June, and disappeared about the 1st of July. It was supposed by the citizens to have been introduced into the town. He says that the locality where it prevailed was the same as the surrounding country; and he did not discover that habits of life, age, or sex, had any influence over the disease. But it was modified by the condition of the atmosphere,—for while it was prevailing the weather was warm and sultry, and the atmosphere dry. It subsided after a few showers. He writes that about half the number attacked died. The remedies which he found the most successful, were stimulants, given internally and applied externally, also opiates administered in such doses as symptoms seemed to require.

PUTNAM COUNTY.

I received information from Dr. S. Ritter, of Pleasant Garden, that cholera appeared in the neighborhood of that village, in June, 1851. He writes that it was confined to an area of about two miles square. The inhabitants were farmers, of stout and healthy constitutions. The land was flat, and rather inclined to be wet. There were ten cases seen by the Doctor and his partner. He remarks, as to the cause of this outbreak of cholera, he could not detect anything in the locality, or any imprudence with the inhabitants, that would have been likely

KNOX COUNTY.

From Vincennes, Dr. W. W. Hitt writes that cholera made its appearance in that city July 15th, 1850, and disappeared about the 15th of August following. He says the disease appeared to arise spontaneously. At the house where the first case occurred, the yard was in a filthy condition. Intemperance favored its progress; but atmospheric changes appeared to have no influence over the epidemic—neither had locality, for it prevailed in the different parts of the town. He writes that more than half of those attacked died. He relates a remarkable case that came under his observation and treatment in 1850. It was "that of a lady about the full term of utero-gestation. She was attacked with cholera; labor pains came on about the commencement of the attack. The large doses of camphor in the prescription, calomel, camphor and pepper, ten grains each, appeared to suspend the labor pains for twelve hours, and until the violence of the attack had passed. During consecutive fever pains had reappeared, and she was delivered of a child apparently full grown, and some hope entertained of her recovery. The child was born with nearly all the symptoms of Asiatic cholera fully developed, and died three or four hours after birth. The woman also died some thirty hours after her accouchment, of consecutive fever."

"In the treatment of cholera," the Doctor remarks, "my general course was to give prescription No. 1, viz: calomel, camphor, and pepper, from 8 to 10 grains each, every one, two, or three hours, according to the urgency of the case, until diarrhea ceases. Then give prescription No. 2—the above reduced one-half, and add compound extract of colocynth pills, two, three, or four hours, until purging ensues. Then lessen the dose of No. 2, and give at longer intervals for two or three days. Warm the extremities with hot water by holding them near the edge of the bed above a tub of hot water, by pouring, or by means of cloths. The water is applied as often as necessary to keep them warm. I allowed ice to be held in the mouth until dissolved. I noticed that all who recovered slept two days and nights after the violence of the disease had passed, and during consecutive fever had to be aroused from slumber to give nourishment or medicine."

DUBOIS COUNTY.

I am informed by Dr. R. M. Welman, of Jasper, that cholera appeared in this county in 1849, on the 28th of June, and disappeared about the last of July. He writes, "it seemed to arise spontaneously, and a cloudy and damp atmosphere favored its progress. It prevailed alike in the healthy and un-

healthy localities." He says that habits of life, age, sex, and occupation appeared to have no influence over the disease. The number of deaths, in proportion to the number attacked, were, the first and second week, about two to three; after that time, one in five, or less. The remedies which he found most successful, were a combination of the most powerful stimulants and antispasmodics, given without regard to quantity. He found mercury most serviceable after the violent symptoms had subsided.

WASHINGTON COUNTY.

Dr. Saml. Reid, of Salem, informs me that cholera prevailed at that town in 1833. He says at that time there were about 1,500 inhabitants in Salem, and there were about 150 deaths from cholera. In the month of August, 1849, cholera appeared again, and disappeared in September. There were this time thirty deaths. In 1850, there was not a case. In 1851, during the month of July, there were four deaths. In July, 1852, there were three deaths from cholera. The Doctor thinks that the disease appeared spontaneously. He says that he could not discover that habits of life, age, sex, or locality, had any influence over the epidemic; sudden changes in the weather he thinks had. He states that three-fourths of those attacked died. In the treatment of the disease, the stimulating plan he found best. His principal remedies were brandy, camphor, opium, and chloroform, administered as symptoms required. He depended principally upon calomel, after reaction had taken place.

FLOYD COUNTY.

From New Albany, Dr. J. Sloan writes, "that cases of cholera had been landed at that place from steamboats during the winter of 1849, and some cases also occurred in persons who had been exposed upon the river. It first appeared as an epidemic in the latter part of April, and cases continued to occur with considerable frequency until the middle of autumn. The cases I saw early were more malignant than those of the summer and fall. Persons of broken-down health, and intemperate habits, were more frequently attacked than those in robust health. I am not aware that its prevalence in this place was influenced in a marked degree by locality, age, or sex. There were, in 1849, one hundred and twenty cases reported, and forty deaths—probably the number is too great.

"In 1850, the disease appeared in June, and occasional cases were reported during the summer and fall. There were about thirty deaths during the season—a larger number of

deaths, in proportion to the cases reported, than during the preceding year.

"In 1851, the disease did not prevail as an epidemic—a few sporadic cases occurred.

"In 1852, there were a few cases in the city. The first was a lady; then her husband. These cases occurred during the session of the Indiana State Medical Society. These persons had been in attendance on a niece in Portland, Ky., who died of cholera The lady was attacked immediately on her return, and the man two days after—both died. Cases had been landed at Portland, and the disease appeared to have been introduced there in that manner.

"Late in the summer, a boat-load of pauper German emigrants shipped from New Orleans. On the trip they were attacked with cholera, and a large number died. Some fifty or more landed here, and were charitably taken in by some German families near the city. The larger number died of cholera, and in a number of instances the disease appeared to be communicated to their attendants. The latter cases were not in the city. They were visited for the most part by a German physician, who wrote a communication for the Louisville Medical Journal on the subject. I have not read the article, and consequently cannot endorse it.

"Various modes of treatment were tried, and in the milder cases were quite successful; in the more malignant, no treatment was of benefit. I think the most successful treatment was the early administration of an emetic of salt and water, with mustard, followed by mercurials, opiates, and astringents, or stimulants. Say calomel, opium, and acetate of lead, or camphor, variously combined, to meet the particular indications. Externally, sinapisms and dry heat were useful.

"In 1849 and 1850, cholera was preceded by diarrhea, and bowel complaints were unusually prevalent during the summer, followed by dysentery in the fall. The latter was not of a malignant character. Since 1849, I have observed a great increase of what are usually known as fellons, boils, carbuncles, and pustular diseases." This agrees with my own observation. The Doctor also remarks, "that in 1850, 1851, and 1852, I have attended a smaller number of cases of tubercular diseases than in as many years before this period. I think the number again on the increase." He says, "I should be pleased to know if this is accidental, or if others have observed any thing like an antagonism between the diseases?" In answer to this inquiry, I can state that as far as my observation has gone, we have had an increase of tubercular diseases since the cholera made its appearance.

Dr. Girdner writes from Greenville, in this county, and his remarks are endorsed by Dr. Links of the same place, that cholera prevailed in that neighborhood in 1849, 1850 and 1851. The first case that occurred was on the 18th of May, 1849; and they had occasional cases up to the 1st of August. The disease was not very malignant, for out of eighteen cases there were only two deaths. In 1850, there were seven cases and two deaths; in 1851, three cases and two deaths. He says that the first year it appeared spontaneously; but in 1850 and 1851, he thought the disease was introduced into the neighborhood. In 1850, "it appeared in one family, and was evidently brought from off the river by the father; three of the family were attacked." The remedies which he depended upon, were calomel, opium, acetate of lead, camphor, and ammonia. Externally, dry heat.

Since the above was embodied in the report, Dr. Girdner has sent me another communication, giving the particulars of the manner in which cholera was introduced into his neighborhood in 1850. He writes that on the 25th day of April, 1850, he was called to see Moses Scott, 65 years of age, who had just returned from Iowa. On the steamboat on which this man came up the river, there were a number of cases of cholera, and he was attacked with vomiting, purging, and cramps. The captain gave him medicine, and when he arrived at New Albany, two days after his attack, he was able to be conveyed home, a distance of ten miles. When Dr. Girdner saw him he still had symptoms of cholera. Two days after his return home, at 1 o'clock in the night, two of his daughters were attacked with cholera. When the Doctor arrived next day at the house, which was 11 o'clock, one of the daughters was dead, and the other vomiting, purging, and cramped—she however recovered. Five days afterwards, the husband of the daughter that died, was attacked with the same symptoms; he recovered. The Doctor remarks, "that many persons visited the sick, and nearly all had more or less of the symptoms of cholera, such as diarrhea, but by taking medicine in time, no more had fully developed cholera." The Doctor also writes at the time this man Scott came home, there had been no cases of cholera in the county out of New Albany, nor even diarrhea. The disease was confined to this family, and those persons who visited there. There was nothing in the habits of this family that was calculated to produce this disease.

The Doctor also writes that cholera appeared again in that section of country about the 1st of July, in the same year. It was introduced as follows: A German, emigrating from Germany, with his family, was attacked with cholera on the

steamboat and died, and was buried between Madison and Utica. His wife packed his clothes and the bedding into a large chest, without washing or airing them. On arriving at New Albany, she had this chest taken into the country, where she commenced housekeeping in one end of a double log cabin. In the other end resided a German family—the passage between the two rooms served as a cook room for both families—a few days after her arrival, an old lady living in the one end of the house, who had not been away from home, was attacked with cholera and died; about the same time two sons of the widow were attacked with cholera and died. In the other end of the house another woman was attacked with cholera, and also died. During her illness her mother, Mrs. Green, who resided some distance from her daughter, came to see her; on her way home she was attacked with cholera, and also died. The German widow had another son attacked, but he recovered. The Dr. saw these cases, although he did not attend any of them professionally, except Mrs. Green. They were attended by another physician. There were one or two deaths more at this house, but he did not see these.

The Doctor writes, "these cases all occurred in the same house, and were exposed to effluvia, arising from the unwashed bed clothing, upon which the man died on the steamboat." None of the neighbors contracted the disease except Mrs. Green—however very few visited there.

The Doctor also remarks, that the appearance of the cholera, in the spring as well as in this instance, was upon elevated, dry, and usually healthy localities, where cholera had never been known before, nor has it appeared there since. In both instances neither of the families had been from home. The Dr. also writes, "I was a total disbeliever in the contageousness of cholera, but these cases rather shocked my want of faith to some extent."

SPENCER COUNTY.

From this county Drs. Morgan, DeBruler, and Crooks send me information that cholera first appeared in Rockport, in June, 1850; and the last case was in September following.—They say that it appeared spontaneously, or at least there was no evidence that the disease was imported. It prevailed in healthy and unhealthy localities alike, and during all kinds of weather. Intemperance appeared to increase its fatality. About one-third of the number attacked died. In reference to treatment they say that they have nothing new to offer. One case of collapse recovered, after the use of the cold dash.

VANDERBURG COUNTY.

From Evansville, Prof. G. B. Walker writes, "that cholera has prevailed with considerable mortality in this city and its vicinity, for the last four years. It commenced during the summer of 1849; this summer and the summer of 1850 it prevailed in a distinctly epidemic form, destroying about 150 of our citizens each season, or one and a half per cent. In the summer of 1851, and summer of 1852 it prevailed, but not to the same alarming extent, carrying off about 50, or one-half of one per cent. of the population each season; and perhaps in the latter seasons had more the characteristics of an endemic disease.

As in other places it prevailed to the greatest extent amongst the poorer population, especially German and Irish emigrants, who were destitute of the means of comfort and more exposed by their occupations than those in better circumstances; and, also, in localities abounding in filth, as in the vicinity of foul streets and alleys, and still more strikingly near a steam mill and distillery, about which the grounds were exhaling a putrid odor." While cholera was prevailing the Doctor frequently observed it complicated with other diseases. He remarks that it was frequently complicated with bilious diarrhea. By this complication he says, "I only wish to signify that during the invasion of cholera this form of diarrhea has been quite prevalent, sometimes terminating in cholera, that is in serous diarrhea with vomiting spasms and collapse; at other times continuing for weeks with no other untoward symtoms, except copious thin bilious stools, yielding reluctantly at length under the use of anodynes and astringents as well or perhaps better without the addition of mercurials than with them. Remittent fever has sometimes been manifested during an attack of cholera, and when simple the case has justified and borne a more or less free administration of quinine, the febrifuge producing such decided benefit as to induce some to suppose that it might be a useful remedy in the treatment of cholera proper, and some have even gone so far as to ascribe the cholera itself to malaria. Instead of simple remittent fever, however, the more alarming congestive symtoms have not unfrequently manifested themselves. The seat of the congestion has generally been the cavity of the cranium, indicated by deep coma; sometimes however the abdomen or portal circle seemed to be also involved. In these cases calomel was an indispensable remedy; opiates could not be endured, senapisms, counterirritants, and revulsives, with cold applications to the head, occasionally produced the most happy effects, especially a blister over the precordia, when the patient lived long enough

for it to draw, (which was sometimes two or three days,) seemed to contribute greatly to the cure."

"The typhoid complications, which occasionally occurred, were found generally amongst foreigners, who had recently landed from on shipboard. These cases were extremely difficult to manage, and generally recovered best where stimulents were freely given, and persevered in conjointly with the remedies proper for cholera itself."

Cholera, as the Doctor observed it, "presented no premonitory symtoms that could be relied upon as menacing an attack of the disease. The diarrhea has stolen upon the patient without attracting his attention or exciting discomfort, until the shafts of death have irretrievably entered his vitals. It is not sufficient to reply to this that a powerful nervous shock affects a large proportion of the people during the prevalence of this disease, since this is nothing more than a natural accompanyment upon so terrible a scourge, and by no means a premonition of this disease, and doubtless this debilitating mental anxiety and alarm not unfrequently ushers in an attack. But an attack does not always follow upon the most debilitating, nervous or mental impressions, while, on the other hand, it is often established without any such antecedents. Diarrhea has of late years, even more than at first, been a prominent and early symptom. This frequently advances by the slowest possible degrees; the stools growing gradually thiner and paler, until the bilious tinge is entirely lost and nothing but colorless serum, or serum of a whitish color, or with white flocculi floating in it is evacuated. This constitutes the rice water discharge, from a resemblance to the water in which rice has been boiled. This serous or rice water diarrhea has continued from half an hour to several days, being generally more rapid when the discharge is copious, after which the peculiar vomiting in cholera, which, indeed, appears to be a spasmodic regurgitation, comes on, and now, between the vomiting and purging, the vital powers begin to sink rapidly. As soon as the prostration extends to the spasm point the cramps make their appearance, affecting all the voluntary muscles, but more especially those of the extremities, the stomach and bowels being occasionally seized with the most painful spasms; soon after this the spasms subside apparently from exhaustion, and the fatal collapse commences. The recoveries after collapse has been fairly established, amount, according to my own observation, to about one per cent of such cases. I am inclined to consider the rice water stools and collapse, as characteristic symptoms of cholera, and as being so intimately associated, as to resemble

the relativeness of cause and effect, and, indeed, the serous stools so invariably precede the collapse in this disease, as to make me regard the one the consequence and effect of the other. Be this as it may, I should consider the patient safe from collapse so long as bilious stools are discharged, and the danger of this fatal result to be almost removed when such evacuations have been changed in quality or arrested. Such has generally been the order of its different stages: 1st, diarrhea; 2d, vomiting; 3d, spasm; 4th, collapse. In the treatment of cholera, the Doctor remarks: "that I am not clearly convinced that the profession has advanced materially since its invasion in 1832. The simple medication practiced by the profession generally, has, according to my observations, been the most satisfactory and successful, such as calomel, opium and camphor variously proportioned and modified. To these may be superadded rubifacients and internal stimulants and astringents as symptoms may indicate. The opium should be carried far enough to secure its anodyne or soporific effect; given short of this, it is only an inferior stimulant, and carried too far, it may, and indeed, I have known it to bring on a fatal coma. The camphor must always be given according to the judgment of the practitioner in each particular case. I have never known it to be administered in a poisonous dose in the management of cholera, and like sugar of lead, catechu, and tannin may be regarded as entirely of secondary importance. The calomel, at last, is the Sampson in our system of medication. It may be asked, is it most beneficial in enormous, moderate, or minute doses—that is to say, sixty, ten, or one grain doses? I, formerly, was in favor of the ten grain doses, but now prefer the small or one grain doses, sometimes even smaller and occasionally larger. I am also become convinced that the mercury was useful only to maintain the secretions especially of the liver. When, therefore, the hepatic secretion is natural and sufficiently abundant, I have opposed its use, depending upon anodynes and astringents; preferring opium or morphia for the former, and tannin for the latter." The Doctor asks: "is calomel always necessary when the stools are destitute of bile? This is an important question, and, I am inclined to believe that the profession generally would answer in the affirmative. I am convinced from observation that it is *not indispensable*; on the contrary, the recuperative powers of the system will sometimes restore the *bilious secretion* when entirely suspended in cholera. Such a desirable result, however, could not be relied on, and the practitioner would be highly culpable who would trust to the possibility of this favorable change, and abstain from the most

efficient means (mercury) to aid the flagging powers of the liver in securing so desirable a result. After the function of the liver has been restored, the patient may be considered out of danger, at least from the present attack—but by no means free from danger from complications or relapses."

REMARKS.

Such is the information which I have been able to obtain of the progress of cholera through the state of Indiana. The principal objects kept in view in drawing up this report, have been to ascertain to what extent the epidemic has prevailed within the state; next, what are the evidences that this disease was introduced amongst us, and was propagated by contagion; also what were the predisposing and exciting causes which favored its development, and also what was the treatment adopted by our physicians.

In reference to the contagiousness of cholera, we have seen from the statements of a number of our physicians residing in the interior of the state, that the disease has appeared in different parts of the country after the arrival of some person coming from an infected district, this person being first attacked; then cases followed in succession as if communicated from one individual to another; while the physicians of the towns along the river have generally, I believe, considered the disease as appearing spontaneously. I may here remark that the physicians of the West particularly those who reside in the country, possess peculiar advantages in observing the progress of cholera. It is not amongst the crowded population of a large city or even along our great thoroughfares that we can satisfactorily ascertain whether cholera does or does not progress over the world by contagion or infection, for the means of communication may be so various to those who are predisposed to the malady, that the connection between the different cases cannot be discovered; but, in a country where the population is sparce, and the inhabitants, alarmed by the prevalence of the epidemic, live almost isolated from their neighbors, we have a better opportunity of observing the connecting links, if there are any, between the different cases that occur. From my own observations, and from reviewing the information I have been able to obtain, cholera appears to me in its progress through the state of Indiana, to present more the appearance of an infectious disease than that of an epidemic depending upon some widespread cause in the atmosphere. The manner in which the epidemic first made its appearance at Aurora, (and this was similar

to its first appearance at most of the towns along the river) did not resemble at first the progress of an infectious disease. This I believe was owing to the fact that cholera poison was first introduced into Aurora, as well as many other river towns, by passengers from the steamboats in the winter, a season of the year, when the disease would not prevail except in the form of diarrhea. Persons were constantly arriving at that time from New Orleans, where the epidemic was prevailing, unwell with diarrhea, and the first cases which terminated fatally at Aurora, were individuals landed from steamboats; but the disease did not spread in a malignant form from these cases. We had at first an epidemic diarrhea; this diarrhea gradually increased as the season advanced, and, although easily managed at first, I believe from the sudden prostration of the system which frequently accompanied it, and the clear serous discharges, to have been a mild form of cholera, and to have been introduced into our town by persons arriving from off the steamboats.

I can see nothing inconsistent with the nature of this disease, in supposing it may assume a mild form—the form of a diarrhea alone. We have a mild type of scarlatina scarcely attended with any danger. The malignant form of this disease, as is well known, is almost as fatal as the worst forms of cholera. Does not a combination of circumstances make the poison of cholera more malignant, and change to a certain extent the character of the disease? When the epidemic assumed a malignant form in Aurora, the first case that terminated fatally, appeared to spread the disease in its malignant character. This person, as I before mentioned, had not contracted the disease abroad, but she had seen persons shortly after their arrival from New Orleans who were unwell with diarrhea. The house at which this case occurred, is on an elevated situation, in one of the healthiest portions of the town. Within one week from this death, the disease appeared in a malignant form in nearly all the houses in front and in a Northeast direction within one hundred yards, while the inhabitants on the South and Southeast were not attacked so severely. There was nothing in the *locality* or the habits of the inhabitants that I am aware of, that would have favored the development of the disease more in this part of the town than any other. I resided in this portion of the town eleven years, and scarcely had a day's illness until attacked by cholera. I consider it the healthiest portion of the town. When it was observed that the deaths principally occurred within a small locality, and most of the people in this part of the town had been in the habit of using water from a well near my residence, it was supposed that this water might have some

influence in developing cholera, consequently the use of it was discontinued and cistern water used instead; but there was no abatement in the cases of cholera. Limestone water however, may probably have acted, in some instances, as an exciting cause to the disease; but I think more importance has been attached to this cause by some persons than it really deserves. If limestone water was the principal cause in exciting cholera, why did not the disease prevail again the next year, when, after an unusually dry season, our wells and the wells throughout the whole country contained but little water, which, from its muddy appearance, might be considered a saturated solution of lime. Cholera was again amongst us, but it manifested no tendency to spread as an epidemic. But if we consider the disease as having prevailed in a mild form, and then as season and other causes favored its development, assuming a malignant character, and also that the infection is capable of accumulating and becoming concentrated in certain localities, it appears to me we can understand the manner in which cholera prevailed in Aurora, and the infected district. Six or seven hours before the first case terminated fatally, the evacuations from the bowels passed involuntarily into the bed, consequently the bed and straw became saturated with these discharges. Immediately after the death of the patient this bed was emptied in a vacant lot on the west side of this house. Now, if we can conceive that from this straw there emanated a poison capable of producing cholera, that part of the town which became affected, is just that portion which a vapor emanating from this place would be most likely to pass over. The patient died on the 5th of June, and from the 5th until the 9th the weather was calm, damp and sultry, with scarcely any motion of the air. If a small dog had been lying upon this lot in a state of putrefaction, I have no doubt but all persons living within the infected district, would have been sensible of it from the offensive effluvia passing into the atmosphere. As this straw dried there must also have been a vapor rising from it into the atmosphere, and if we view this vapor as producing cholera, we can understand how the inhabitants in front and in a Northeast direction became affected, and, as fresh cases occurred, the different houses became foci of infection, and thus the disease gradually extended along the street. We mentioned a number of instances which occurred at Aurora, that appeared to me as if the infection had extended through the atmosphere. One was the woman who died in the next house to the one in which Dr. Loda died, and about fifty yards distant. She had not seen the Doctor, I was informed, and

if the disease was communicated from one to the other, it must have been through the air. The first case appeared to have been contracted in Cincinnati. These two were the only cases that occurred in that part of the town during the year. We also mentioned that an Irishman died with cholera in 1852, the day after his arrival from Rochester, where the disease was then prevailing, and that the day following, October the 4th, a woman living about 40 yards distant, was attacked with cholera and died. This female had not been away from Aurora nor seen any case of cholera. In five days after her death, on the opposite side of the street from where she resided, a child was attacked with cholera and died. If there was any communication between these cases, it appears to me most probable, that it was through the atmosphere; as the first case occurred in an Irish family, the next in an American, and the other in a German, and these families had no intercourse with each other. There were several cases of diarrhea in the same part of the town shortly after. Other instances were mentioned where the poison appeared to have been carried through the air. The disease certainly appears to have been introduced into the town. These individuals came from localities where cholera was prevailing and contracted it abroad, and is it reasonable to suppose that a remarkable coincidence caused it to appear in the adjoining houses in which they died, while no other cases appeared at that time in the whole township.

I may here remark that after the summer of 1849, the inhabitants of Aurora seemed to have lost their susceptibility to the disease; cholera had no tendency to prevail again as an epidemic, neither had we again the epidemic diarrhea or dysentery to any extent. If we admit the view to be correct that the infection is capable of extending through the air, and producing cholera to the distance of several hundred feet, we see at once how the atmosphere of certain localities may be affected, and how it may prevail as an epidemic, and extend through a large city. In the first place, the infection must be introduced into a community in which cholera *has not prevailed for many years;* then a variety of causes favor its development, such as season of the year, wet weather, a high temperature, sudden changes in the atmosphere, and whatever has a tendency to produce diarrhea. When the disease prevails, each house at which a fatal case has occurred becomes a source of infection, first from the patient, next from the bed and bedding, also from the excretions which, from their watery appearance, are generally emptied on the ground. If the exhalations from a cholera patient, or from the discharges were as easi-

ly detected by the sense of smell, as the effluvia from carion, the odor of musk, or particularly the stench of the skunk, (Mephetis Americana) we should not have the least hesitation in considering the disease as extending itself through the atmosphere.

I have been aware of the presence of the skunk by the sense of smell four hundred yards from where the dogs were fighting it. On approaching the animal, I carefully avoided it touching me, yet when I visited town an hour afterwards, my clothing still retained the stench, and it was detected by persons with whom I came in contact. I think the manner in which this *animal secretion* is capable of extending through the atmosphere, throws some light on the manner in which the infection of cholera may be diffused through the air. We would say then, that cholera poison, like malaria, operates through the medium of the atmosphere, and like that poison, it cannot be detected by our senses.—We know that exhalations must be constantly passing off from the secretions, from the surface of the body, and from the lungs of every cholera patient. Even in health the exhalations from the lungs and surface of the body, probably extend much farther than we are aware of. A good hound will follow the trail of his master an hour after he has passed, although the trail may have been crossed and recrossed by other persons. Is there any thing unreasonable in supposing that when a man is unwell with a cholera diarrhea, or cholera in its more advanced stage, that these exhalations may be poisonous, and that a person apparently but little unwell may be instrumental in extending the disease? When cholera was prevailing at Aurora, the disease was generally felt throughout the whole town in the form of diarrhea and dysentery, but in the infected districts, a combination of circumstances accumnlated a greater amount of poison, and consequently the disease was more malignant—the same as it appears wherever the infection can accumulate, as on board our steamboats crowded with passengers, or in our prisons, or in the army, or amongst large crowds of human beings.

It is scarcely necessary to mention that because cholera does not attack all persons who are exposed to it, that that is evidence against it being infectious. We know that all persons are not equally susceptible to the influence of typhus fever or scarlatina, yet very few physicians at the present day have any doubts that these diseases are contagious—The same argument may be brought against the cause of the disease being atmospheric, or general because all persons are not brought under its influence. If the cause of cholera is at-

mospheric, why does it not attack all parts of the country at the same time? It may prevail severely in a section of country, while an adjoining neighborhood only a few miles distant will be perfectly free from the disease but be attacked at a subsequent period. Such has been the case in some of the townships in Dearborn county, and some of the counties within the state. How can these facts be reconciled with the progress of the epidemic around the globe, if the cause is general or atmospheric? Does it not look more like an infectious disease spreading through the country? I think we may safely say that when an individual or a community has once been under the influence of cholera, that there is not, at least soon, the same susceptibility to a second attack. The system soon acquires the power of *tolerating the poison* and in a short time it ceases to produce any effect unless developed by some imprudence. Persons may have a second or third attack of cholera, but, from my own observation, this is not a common occurrence and when it does occur is generally brought on by imprudence.

We have many facts to favor the idea that persons leaving an infected district with diarrhea, have communicated cholera to others which has assumed its most malignant form. When the inhabitants left Aurora as I before mentioned, many of them were unwell with diarrhea, and they appeared to extend the cholera into the country. One instance—a Mr. Moore and his wife who resided in the infected district in Aurora, in 1849, left soon after cholera made its appearance in the malignant form at that town and went eight miles into the country to the house of his father-in-law. Mrs. Moore had a severe attack of diarrhea but recovered in a few days. Her mother-in-law, Mrs. E., who had not been away from home, in a few days after was attacked with cholera, and died after a few hours illness. In three days after her death, her husband had a severe attack of diarrhea which was followed by a typhoid form of fever. These were the only cases that occurred in that neighborhood. Dr. Burt of Vernon, Jennings county, mentioned how it was introduced into that town by a traveler unwell with diarrhea, but not sufficiently so to prevent him from continuing his journey. Also Dr. Ritter of Putnam county, stated some facts which appeared to me to show that the disease was introduced into his section of country either by the woman unwell with diarrhea or the dirty bed clothes he spoke of.

To those who consider the disease infectious, there are some facts to favor the idea that the infection can be carried in the clothing. I mentioned the case of the man Fickiss.—

A few minutes before I examined his lungs, I had been attending the only case of cholera in the county; in five days afterwards he was attacked with the disease and died, and there certainly appeared to be a connection between the five cases that followed.

The evidence presented by Dr. Girdner of Floyd county, certainly appears to show the disease was introduced into that section of the county by the unwashed bed clothes on which the man died of cholera on the Ohio river.

The length of time which intervenes between exposure to the infection of cholera and the appearance of the disease, varies from a few hours to five weeks as we saw in the case of Dr. Edwards, mentioned by Dr. W. R. Smith of Marion county, and the case of Mrs. Brixner mentioned by myself, occurring on the 13th of December last, but the average length of time from my own observation, has been about six days. Our conclusions then are, that cholera is propagated by laws peculiar to itself, but that these laws come under the head of those which govern infectious diseases. The question as to whether cholera is infectious or not, is an important one in several respects. We know that many of our best medical works tell us that cholera is not infectious, and consequently, cannot be communicated from one individual to another, If these works are wrong, they may aid in extending the disease by putting physicians off their guard, and preventing them from adopting precautionary means to arrest its progress, such as allowing persons to remain crowded in poorly ventillated houses, where the disease has appeared, also by preventing the adoption of neccessary means to purify the buildings in which cases of cholera have occurred; by allowing the clothes and bedding to be exposed where the infection may be communicated; by permitting the excretions to be emptied upon the ground, where, by their evaporation, they may infect the atmosphere, &c., &c., &c. These causes when not attended to, must in my opinion, have a tendency to spread the disease. Other causes also exist—fear may predispose the system in some instances, to an attack, but I do not think fear has a hundredth part as much to do in spreading cholera as neglecting to attend to these causes, and acting imprudently in the manner of living. This is exemplified in the fatal form in which the disease has prevailed amongst our foreign population, also from the fact that at Aurora and other places where the epidemic prevailed, it assumed as malignant a form amongst children who were too young to be influenced by fear as it did amongst adults. When cholera assumes its malignant type, there can be but little doubt that it is more easily

prevented than cured, and although daily exposed to the disease, by acting prudently and carefully avoiding the exciting causes, persons soon become accustomed to the infection and lessen the risk of an attack.

I stated that cholera, in my opinion, assumed the mild form of diarrhea, that this diarrhea was not the precursor of cholera, but the disease itself under a milder type. Accompanying cholera in the west has been another disease—dysentery, which I believe also was a modification of cholera. I do not wish it understood that every case of dysentery that occurs while cholera is prevailing, I consider a modification of this disease. Dysentery prevails every season to a greater or less extent, but since cholera made its appearance in the country there has been a form of dysentery different from what we usually have, which I consider a form of cholera, and is capable under favorable circumstances of changing and appearing in the other forms of the disease. When cholera is prevailing in a malignant form, we often see one person attacked with diarrhea, another with dysentery, and another with the worst form of cholera. Are not all these cases produced from the same cause? It has appeared to me that in one case the disease expends itself upon the large intestines, in another upon the small, and in the other upon the whole system, overwhelming the functions of organic life at once. Accumulate the infection of cholera in a dense population predisposed to the disease and you will have cholera, and very probably have it in all its varieties—the malignant, the mild, the diarrhea, and the dysentery, although this last form of disease seldom prevails as early in the season as the other forms, and when it does prevail seems to depend upon some epidemic influence favoring the development of dysentery which gives direction to the action of the cholera poison. We then consider that cholera may be divided into

DIARRHEAL CHOLERA,
DYSENTERIC CHOLERA,
MILD CHOLERA,
MALIGNANT CHOLERA.

The malignant form of cholera does not prevail as extensively in the country as either the diarrheal form, the dysenteric or the mild form of the disease. It is only where the inhabitants are peculiarly susceptible to the disease, or a combination of circumstances favors the accumulation of the infection that it shows itself in its malignant character.

Diarrheal cholera is characterized, as I before mentioned, by the peculiar sero-albumionus discharges, by a tendency to sudden prostration, by profuse perspiration, &c., &c., although

it frequently occurs in so mild a form that it could not be told from common or ordinary diarrhea. I have known this to be the case, and after the disease had continued for several days, suddenly change and bring the whole system under its influence, and the malignant form in this instance seemed to be the *manner* in which the disease was about to terminate in death. Was it not cholera producing this diarrhea, and if it was, was not the system laboring under a mild attack of cholera? And when we see persons, as I have before mentioned, unwell with diarrhea appear to propagate cholera, is it not a rational inference that they would also propagate the disease in the form of diarrhea, when scarcely any cases commence without this derangement of the bowels? Why consider this diarrhea a premonitory symptom or the forming stage of cholera, as is generally done by our authors, when we see it prevail as extensively as an epidemic—often fatal in a few hours and appearing as it spreads over the country to remove the susceptibility of whole communities to the influence of cholera?—When it causes death are we to consider that it was not a disease that produced death, but merely the premonitory symptoms of a disease? We have yellow fever without black vomit, and certainly it is reasonable that we may have cholera without the worst phases the disease may assume. We then consider that cholera may be *spreading* through a neighborhood in the form of a *mild diarrhea* and public attention scarcely directed to it, when some person, or family, more susceptible to its influence are attacked and several deaths suddenly occur. The inference in such cases would generally be that the disease arose spontaneously. If these views are correct, that cholera may be propagated while in the form of a diarrhea, we see how rapidly this pestilence may extend over the whole country, even if only one out of ten contract the disease, which, in some sections of the country, under ordinary circumstances, appears to be about the proportion which is susceptible to its influence, although in towns or where the infection can accumulate, the proportion is much greater. Again, an individual having a mild attack of this *infectious diarrhea*, goes into a neighborhood where the inhabitants are predisposed to the disease, the person himself is scarcely aware that he is unwell; shortly afterward there is a sudden outbreak of cholera, and as all persons are not attacked who are exposed to it, if it does not occur at the house where this individual is staying, how difficult it would be to trace the manner in which the disease was introduced. Accordingly we consider that cholera differs from all other infectious diseases. Individuals laboring under typhus fever are too unwell to go abroad. The exanthema-

tous diseases would be detected by the eruption, and avoided. Scarlatina, however, has some resemblance to cholera in the manner in which it is propagated. The infection, as in cholera, may remain latent in the system for an indefinite length of time—like that disease also, all are not equally susceptible to its influence. Both diseases also have a mild and malignant form; the infection of both will be retained about clothing, or a building for a considerable length of time, and if scarlatina prevailed amongst adults, and could be contracted more than once, it would occasionally sweep over the country as cholera does.

What we consider the dysenteric form of the disease has been so intimately associated in the west with the malignant form of cholera, that I cannot avoid the conclusion as before stated, that this disease was cholera expending its violence upon the large intestines. It has prevailed in the same sections of country with cholera, appearing upon the healthy and unhealthy localities alike. It appeared to be governed by the same laws, being about equally as infectious. Sometimes it suddenly changed into the malignant form of cholera, at others well marked cholera changed into dysentery. The worst forms of this disease frequently commenced with vomiting. The discharges were of a sero-mucous character, of a bloody or reddish brown color. There was severe tormina or tenesmus. The pulse was small, and the skin frequently in forty-eight hours became cold and clammy. The countenance shrunken; there was great prostration and restlessness, but frequently in the same family the disease would be so mild as to resemble the mildest form of endemic dysentery. I am aware that as "epidemics make other diseases wear their livery" that it will be considered that cholera was merely impressing its character upon this dysentery. But when we see cholera introduced into neighborhoods which were previously free from bowel affections and give rise to dysentery and both of these diseases prevail together, as is frequently the case, a very natural inference is, that these diseases have a common origin and the one is but a variety of the other. Dysentery, however, has prevailed where there were no well marked cases of cholera—it has been a wide spread epidemic since 1849.

This predisposition in the community to bowel affections evidently has favored the progress of cholera. When causes operate to produce a general predisposition to diseases of this character, then cholera rapidly spreads through neighborhoods, counties, states, or even over the whole world.

We know that occasionally whole communities are predisposed to the influence of infectious diseases; at such periods

scarlatina, measles, smallpox, typhus and typhoid fevers have a tendency to rapidly spread and more frequently at these times than any other, assume a malignant character. We know also that diarrhea and dysentery occasionally prevail as epidemics, but do these bowel affections at such times ever give rise to cholera? We know of no instance of cholera upon the continent of America arising out of these diseases and making its first appearance in the interior of the country. We hear of it first at a sea port, or more correctly speaking, we hear of it first spreading from a country where it is endemic, and causes are probably in operation which originate the disease. We observe it spreading through Asia, progressing westwardly through Europe, it appears at the western coast of that continent; it shows itself upon a vessel at sea, bound for this country carrying passengers from a country where the epidemic is prevailing; it appears amongst these passengers upon their arrival at one of our sea port cities; it then prevails at this city amongst its inhabitants and spreads along the thoroughfares leading from this point throughout the country; in 1849 from the south towards the north and east; in 1832 from the north towards the west and south, and associated with it as it passes over our country in many places, we see diarrhea and dysentery, but why it should assume at times almost entirely a dysenteric form is difficult to say—probably caused by some epidemic influence favoring the development of dysentery as before mentioned; however, it has occurred to me as a question worthy of consideration, whether the infection of cholera may not be slightly changed by the violence of the disease being expended upon certain parts of the system, for instance *when the force of the malady is directed to the large intestines producing dysenteric symptoms, whether the infection in this case would not be more likely to produce dysentery, and consequently spread a dysenteric form of the disease?*

What we consider the mild form of cholera is where there are well marked symptoms of cholera, viz., vomiting connected with discharges from the bowels of the sero-albuminous character, cramps, &c., but the disease yields readily to medicine and the patient soon recovers from the attack.—Such cases must have been so frequently observed by all who have witnessed cholera prevailing as an epidemic, that it is only necessary to call attention to the fact that cholera prevails in this form.

The malignant form of cholera wherever I observed it, presented the same symptoms, so well known, and accurately described in our medical works, that it would be superfluous for me to more than merely allude to them. The disease usu-

ally commenced with diarrhea, which was followed by vomiting and as it advanced we had the same profuse discharges from the bowels of a light watery or sero-albuminous character described by authors; the same shrunken and blue appearance of the skin; coldness of the surface, with profuse perspiration; failure of the pulse; cramps of the muscles; suppression of urine; oppression of the chest; failure of the voice, with but little derangement of the intellectual faculties. Sometimes the disease passed rapidly to a fatal termination with but little vomiting or purging; the other symptoms, however, being present, this would constitute a variety of malignant cholera.

It appears to me that I have observed premonitory nervous symptoms belonging to cholera which I have never seen described in any of our medical works. They do not always precede an attack of cholera, or always present the same appearance. I divide them for the sake of description into those of *exaltation*, those of *depression*, and those of a peculiar or an *anomalous character*. When the disease commences with what we consider symptoms of nervous excitement, there is generally an unusual exhilaration of spirits; the mind is clear, the thoughts are vivid, and the person in common language, seems full of life. This exalted condition of the nervous system is followed by a sudden attack of cholera. I do not think this excitement is accidental, or that cholera is the consequence of it, for, I have seen it in many instances, and particularly amongst children. My son had these exhilarated feelings the day before he was attacked, and appeared unusually full of sport until a late hour at night. The opposite symptom to this, the feeling of depression, or lassitude, which very often precedes an attack of cholera, isdescribed by medical writers, and I believe is generally accompanied with diarrhea.

The other premonitory symptom, the one I wish particularly to direct attention to, is a peculiar nervous feeling which pases over the whole system and more resembles what I understand by the *epileptic aura* than anything else that I can compare it to. It is generally accompanied with an oppressive sensation at the stomach; difficulty of breathing and a desire for fresh air. Sometimes this symptom, accompanied with the oppressive sensation at the stomach and the other symptoms, comes on before the diarrhea and in those cases where they are present add greatly to the sufferings of the patient. I felt these symptoms myself, and have since observed them in others, frequently in children, who, while laboring under what I consider the same feelings, cannot lay still, they appear dis-

tressed, they raise in bed or change their position from one side to the other, make full inspirations, call for fresh air, and appear oppressed for breath. These symptoms are *paroxysmal* and generally precede the act of vomiting or discharge from the bowels or cramps; there seems to be a connection between all these symptoms, also with the failure of the pulse which often takes place at the same time. It was from my own feelings during the attack of the disease, which were different from anything I had ever felt before, that led me to observe them in others, and it appears to me that I have noticed in those cases which terminate fatally with but little vomiting or diarrhea, they were the prominent symptoms. We then consider that cholera was introduced into our state; that it has appeared in the form of diarrhea, dysentery, mild cholera, and a malignant form; that the attack is often preceded by peculiar nervous symptoms; that it is propagated by human intercourse, or to use a simile it spreads over our country as fire may be spread over our prairies, communicating from individual to individual, and raging with violence in some communities peculiarly susceptible to it, or where the infection becomes accumulated; in others again assuming the form of diarrhea or dysentery it may be so mild as scarcely to attract attention. In the mild form of diarrhea may not cholera exist in our cities, or in the south during the winter, and reappear again in its malignant form as season favors its development.

We find from reviewing the observations of our physicians, that locality has had but little influence over the progress of cholera in the state. It prevailed upon the healthy as well as the unhealthy localities wherever it appeared to have been introduced. In Dearborn county it prevailed in a malignant form on the uplands and in some of the healthiest situations, while at Lawrenceburgh, Hardington, and Elizabethtown, upon the low alluvial bottom land, it was comparatively mild, and in many other places upon the low lands which annually produce malarious diseases, the epidemic was scarcely manifest. These facts do not coincide with the report of Mr. Farr on the mortality of cholera in England. He remarks "that cholera reigned wherever it found a dense population on the low alluvial soils of rivers, round the estuaries of the Thames, the Humber and Mersey, the Severn, the Tumar and their tributary waters." He also says "that elevation of soil had a more constant relation to the mortality of cholera in London than any other known element." That cholera selects low, damp situations, we are taught in nearly all our medical works which treat upon this disease, but this is

not in accordance with the observations of a large number of our physicians or my own experience in the progress of this epidemic. Another statement made by Mr. Farr which is worthy of a passing notice, is in the language of the report "that the cholera was not generally fatal on the primary geological formations on the granite, the silurian or devonian systems, while Herefordshire, however, on the old red sand stone escaped, Cornwall on the South of Devon, on the same formation suffered severely." In this country it is upon the silurian formation that cholera has prevailed in its most malignant form, for instance at Cincinnati, Sandusky, Nashville, Louisville, St. Louis and Aurora, but it was not confined to this formation alone, for we see it prevailing upon the carboniferous formation at Evansville, Vincennes, Rockport and many other places mentioned in this report. These facts show that in this country geological formations have but little influence over the epidemic.

Cholera, however, in the west has been modified by season of the year; by sudden changes in the temperature and hygrometrical conditions of the atmosphere. It has uniformly, since 1849, subsided in the winter and reappeared again in the spring. Professor G. B. Walker, of Evansville, sends me a comparison between cholera as he observed it in 1832 and its last visitation. In reference to the season of the year in which it makes its appearance, he says that in its first visitation it was not so much influenced by season as it has been since 1849. He writes that "for the last four years it has appeared with remarkable regularity in the latter part of June or early part of July, and continued to prevail for four or six weeks with variable extent and malignancy, almost invariably, however, being much more rapid and fatal on its first appearance, and gradually growing milder and subsiding as it were into the ordinary epidemics of the season or climate." The Doctor also remarks that as he observed it in 1832 "the most striking peculiarity manifested by it was the suddenness of its attack. Patients were not unfrequently prostrated in the street from a state of good health by a sensation as of a blow over the stomach, and in homely but significant language were 'struck with cholera.' This sudden spasmodic or nervous seizure has never appeared to my observation so distinctly since the first outbreak of the disease in this country. Attacks of cholera without diarrhea, an apparent contradiction, have not been observed since 1832 to the extent then exhibited." The Doctor also writes that from his observation "it has been more frequently complicated of late years than formerly with the prevailing epidemics. Amongst these compli-

cations may be named as conspicuous those with bilious diarrhea, dysentery, and several types of fever, such as remittent, congestive and typhoid. These complications made it necessary to modify the treatment greatly, but nevertheless did not augment the danger of a fatal issue, on the contrary the cholera part of the attack was mitigated by being blended with other pathological phenomena. The evidence of cholera complications in these cases, consisted of the presence of serous diarrhea with tendancy to collapse. It may be proper, however, to say that although the mortality of the disease thus complicated, is not greater than the disease of 1832, it is perhaps about equally grave in its character, or in other words, while the purely cholera symptoms are less malignant than formerly, the additional disease raises the mortality about to the old standard."

All classes of the community have suffered from the epidemic, but our foreign population have been most severely afflicted. This was probably owing to their manner of living; to their imprudence in diet; to their intemperance; to being crowded together in ill-ventilated apartments, and not being acclimated.

Passing by the different theories of the specific cause of cholera, I will merely notice the zymotic hypothesis, or the one which considers the specific poison of contagious diseases, as acting upon the blood in the manner of ferments. This theory is probably now the most popular, and from the recent researches of Leibig, the most plausable; but we meet with facts which we find difficult to reconcile with this view of the subject. In the language of Carpenter, "the predisposing cause of zynatic diseases are all reducible to the one of three categories: 1st, Those namely which tend to introduce into the system decomposing matter that has been generated in some external source; 2d, Those which occasion an increased production of decomposing matter in the system itself; and 3d, Those which obstruct the elimenation of the decomposing matter normally or excessively generated within the system. or abnormally introduced into it from without." If these views are correct, it appears to me that the disease ought to have prevailed in its most malignant form where we should suppose these predisposing causes would exist, such for instance, as upon our low malarious bottom lands, or in the dwellings along the banks of the muddy creek at Aurora, or near the distillery and hog pens in the same town, where more than seven thousand hogs were confined, but it did not. It prevailed in the healthiest portions of the town and on the healthiest highland ridges throughout the country, where

there was no local cause that we could discover, which would favor the development of the disease, and in some places where the inhabitants were perfectly healthy until the disease appeared to have been introduced amongst them. There is evidently a predisposition acquired to cholera which extends over whole communities and is independent of local causes.—*This predisposition is removed by the cholera itself*, for it is seldom that the disease prevails twice in a malignant form in the same locality even if the same local causes exist, unless there is a large influx of strangers.

In regard to the treatment of cholera we have not been able to obtain anything new. You have probably perceived that our physicians have treated the disease in accordance with the rules laid down in our best medical works; but the results are far from being satisfactory. All agree, however, in considering the disease perfectly manageable in the diarrheal form, but after vomiting, purging, and cramps have commenced, and the circulation has began to fail, nearly half the cases under the best course of treatment at present known amongst us, terminate fatally.

PRELIMINARY REPORT

ON

MILK SICKNESS,

AS IT PREVAILS WITHIN THE STATE OF INDIANA,

BY

GEORGE SUTTON, M. D.

In compliance with the duties assigned me as chairman of a committee to report on Medical Topography in relation to "Milk Sickness," as it prevails within the State of Indiana, I addressed letters to the different gentlemen comprising this committee and assigned to each certain counties for examination. Professor G. W. Walker of Evansville, and Dr. V. Kersey, of Milton, promptly responded; and I have the honor to present you with their reports. The other members of the committee I have not yet heard from. I also present a letter from Dr. Florer, of Alamo, Montgomery co., on this disease.

The resolution adopted at the last meeting of the Society, instructing this committee not only to report upon the prevalence of "Milk Sickness," but also to ascertain "whether intermitting, remitting, congestive and continued fevers were on the increase or decrease," we thought proper to slightly depart from, and confine our observations to Milk Sickness alone.

In reporting the progress we have made, I beg leave to call your attention to the objects we have kept in view: 1st, To ascertain to what extent within the State does this disease prevail, and particularly in what counties and townships it occurs. 2d, To ascertain its true character, or whether it is a modification of any of our malarious diseases; also whether the county where it prevails is level or broken; also what plants grow in these localities and whether there are any that

are peculiar to them; also to ascertain the composition of the water and whether it presents anything remarkable; also to ascertain the composition of the soil and the geological formation of these localities; also whether the disease occurs as frequently of late years as formerly. Whether it disappears upon the removal of the forest and cultivation of the land. Whether the inhabitants and cattle are attacked simultaneously. Whether, when the inhabitants are attacked, the attack can always be traced to the use of meat, milk, cheese or butter; also at what season of the year it most frequently prevails. Whether dry or wet seasons have any influence upon the disease, and also what are the symptoms of Milk Sickness in different localities, for I have thought it probable that the disease known as Milk Sickness in one section of the country might not be recognized as such in another; also the best treatment.

Being desirous of obtaining full information on the above subjects, I addressed letters and circulars to physicians in different parts of the State, and have received information from the following counties: Dearborn, Franklin, Ripley, Ohio, Switzerland, Jefferson, Jennings, Decatur, Rush, Fayette, Union, Wayne, Henry, Shelby, Bartholomew, Floyd, Spencer, Warrick, Vanderburgh, Posey, Gibson, Dubois, Knox Sullivan, Vigo, Morgan, Marion, Fountain, Montgomery, Benton, Carroll, Clinton, Wabash, Fulton, and Allen, and I take this opportunity of acknowledging the receipt of letters on this subject from the following gentlemen, Dr. Hughs of Dearborn, Drs. Haymond and Quick of Franklin, Mr. Pierson of Switzerland, Drs. Cogley, Rodgers and Hill of Jefferson, Dr. Conaway of Bartholomew, Dr. Moody of Decatur, Dr. Reed of Henry, Dr. Milton Robbins of Shelby, Drs. Sloan, Links and Girdner of Floyd, Drs. Morgan, DeBruler and Crooks of Spencer, Dr. Welman of Dubois, Dr. Hitt of Vincennes, Dr. L. L. Davis of Sulivan, Dr. Ira Read of Terre Haute, Dr. Allen of Owen, Drs. Mitchel and Hutchinson of Morgan, Dr. W. R. Smith of Marion, Dr. Florer of Montgomery, Dr. Miller of Clinton, Dr. Brackett of Fulton, and Dr. Wordsworth of Allen. The information obtained has been extensive, various and important, and most of it secured at so late a period that I found it imposible to embody it in a report for this meeting. The extensive prevalence of the disease throughout our State—it being in most instances confined to small circumscribed localities—frequently occurring in situations exempt from malarious diseases, and not being known where these diseases are most prevalent, and its gradual disappearance as the country becomes improved, are

facts which show that this disease, and its etiology, are well worthy of a careful investigation. Therefore, as we have yet a number of counties to hear from to complete our topographical portion of the report, and have not obtained all the information desired in reference to the etiology of the disease, I beg that the committee be allowed further time to make out their final report.

The committee on publication have thought it better to defer the publication of the letters of Drs. Walker, Kersey and Florer, and let them appear in the final report.

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Samuel Grimes, Delphi;
J. M. Kitchen, Indianapolis;
William G. Robinson, Noblesville;
T. H. Rucker, New Albany;
G. B. Walker, Evansville;
J. N. Graham, New Albany;
C. R. Ellis, Hardinsburg;
M. J. Bray, Evansville;
Elijah Newland, Indianapolis;
Frederick Lloyd, New Albany;
Isaac Casselberry, Evansville;
Cyrenus Elliott, Milltown;
John Ellis, Hardinsburg;
William H. Byford, Evansville;
Harvey Link, Greenville;
B. F. Mullen, Napoleon;
B. K. Davidson, Evansville;
L. Wort, Brownstown;
W. H. Harding, Lawrenceburg;
George Sutton, Aurora;
J. M. Norris, Shelby County;
N. Field, Jeffersonville;
John T. Roe, Brownstown;
C. C. Evert, Laporte;
H. W. Catlin, Georgetown;
Samuel Reid, Salem;
T. W. Florer, Alamo;
R. B. Jessup, Vincennes;
R. W. Sherrod, Mill Port, Washington County;
J. G. McMechon, Crawfordsville;
R. T. Brown, Crawfordsville;
John Moffett, Rushville;
S. Ritter, Pleasant Garden, Putnam County;
Thomas Chestnut, Lafayette;
W. W. Mayo, Lafayette;
G. B. McFarland, Lafayette;
E. W. H. Beck, Delphi;
A. W. Reagan, Moorsville;
R. M. OFarrel, Lafayette;
Horace Coleman, Logansport;
O. L. Clark, Lafayette;

Luther Jewette, Lafayette;
C. F. Wilstach, Lafayette;
S. W. Taylor, Battle Ground;
G. S. McClelland, Jefferson, Clinton County;
C. Angell, Pittsburg, Carrol County;
P. Roosevelt Johnson, Lafayette;
J. W. Wilson, Rossville, Clinton County;
E. T. Spottswood, Perrysville;
D. Jennings, Lafayette;
A. Hurd, Oxford, Benton County;
J. S. Barret, Dayton;
D. T. Yeakel, Lafayette;
Joseph Johnson, Dayton;
Marshall Sexton, Lafayette;
J. Isler, Lafayette;
E. Deming, Lafayette;
Charles Fishback, Shelbyville;
D. H. Crouse, Dayton;
J. E. Heald, West Point;
T. W. Fry, Crawfordsville;
Isaac Smith, Lafayette.
J. H. Woodburn, Indianapolis;
J. G. Girdner, Greenville;
M. W. Thomas, Franklin;
H. C. Hickcox, Bartholomew County;
John Pleasants, Indianapolis;
R. Willard, Oswego, Kosciusco County;
G. W. Stacy, Warsaw;
Thomas B. Harvey, Plainfield;
J. N. Rynersom, M. A. Meridian;
J. W. Hervey, Germantown;
G. B. Mitchel, Moorsville;
John S. Irwin, Madison;
Samuel Ricord, Zanesville;
Robert C. Hamill, Bloomington;
James W. Maxwell. Bloomington;
W. A. Clapp, New Albany;
George W. Maclean, New Albany;
James S. Harrison, Indianapolis;
S. M. Linton, Columbus;
W. H. Pressley, Lafayette;
William Lomax, Marion;
A. C. Dillon, Rush;
Clay Brown, Indianapolis;
Joseph A. Nesbit, Allisonville;
E. K. Johnson, Eagle Village;

A. G. Wallace, South Port;
David Hutchison, Moorsville;
Samuel M. Brown, New Bethel;
W. Clinton Thompson, Indianapolis;
Charles Parry, Indianapolis;
C. A. Foster, Evansville;
E. W. H. Ellis, Indianapolis.

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PROCEEDINGS

OF THE

FIFTH ANNUAL MEETING

OF THE

INDIANA STATE MEDICAL SOCIETY,

HELD IN THE

CITY OF EVANSVILLE,

MAY, 1854.

NEW ALBANY, IND:
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1854.

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PROCEEDINGS

OF THE

FIFTH ANNUAL MEETING

OF THE

INDIANA STATE MEDICAL SOCIETY.

EVANSVILLE, Wednesday, May 17, 1854.

The Indiana State Medical Society assembled in the Hall of the Medical College of Evansville, at 9 o'clock, A. M. The President of last year, Dr. BROWER, called the Society to order, and appointed Drs. Lomax and Mothershead to conduct the President elect, Dr. E. DEMING, to the chair.

The President on taking the chair, said:

Gentlemen of the Medical Society:

I feel duly sensible of the responsibilities of the station with which your partiality has honored me, and shall endeavor to preside over your deliberations in such a manner as to aid you in the prosecution of the legitimate business of our association. The great interests committed to us by society, call for harmony of feeling and unity of effort in their promotion. Let the spirit which has animated past meetings govern us in this, and we shall have reason to congratulate ourselves upon its successful issue.

Dr. Casselberry, in behalf of the physicians of Evansville, welcomed the Society in a neat and handsome manner, to the hospitalities of their city.

Members of several standing committees being absent, the President proceeded to fill the vacancies, as follows:

Committee on Finance—Drs. Morgan, Girdner, Graham, Sloan, and John Ellis.

Committee on Admission—Drs. Casselberry, Mothershead, Town, Reid, and Lomax.

Dr. Casselberry, chairman of the committee on Admission, reported the following names as suitable persons to become members of the State Society:

Dr. Hugh Ronalds, Evansville.
" J. T. Walker, do.
" John Conyngton, do.
" F. Mulhausen, do.
Dr. Joseph Somes, Vincennes.
" W. W. Hitt, do.
" Ed. Albertson, Canton, Washington county.
" H. D. Henderson, Salem, do. do.
" Jas. B. Wilson, do., do. do.
" Ed. Murphy, New Harmony, Posey county.
" Daniel Morgan, Evansville.
" D. H. Jessup, Rising Sun, Ohio county.
" Malhef Mulhausen, Evansville.
" Oscar E. Walker, do.
" D. N. Negley, do.
" Wm. Gramm, do.
" J. R. Wilcox, do.
" A. Carlstadt, do.
" J. G. Hatchitt, do.
" Jesse Burns, do.
" Andrew Farrell, Mt. Vernon, Posey county.
" M. S. Blunt, do., do.
" J. C. Welborn, Greencastle.
" E. T. Runcie, Millersburg, Warrick county.
" Ebenezer Bray, Evansville.
" Wm. Reader, Corydon, Harrison county.
" H. M. Smith, Vincennes.
" John Lindsley, Evansville.
" Alex. Leslie, Petersburg, Pike county.
" J. M. Ireland, Princetown, Gibson county.
" R. M. Welman, Jasper, Dubois county.
" Wm. M. Elliott, Vanderburg county.

Dr. JOHN RUETT, Vanderburg county.

All of whom were elected members.

There were also present the following members:

Dr. E. DEMING, Lafayette.
" JOHN SLOAN, New Albany.
" J. N. GRAHAM, do.
" R. R. TOWN, do.
" C. BOWMAN, do.
" J. S. MCCLELLAND, Jefferson, Clinton county.
" CHAS. ELLIS, Hardinsburg.
" JOHN ELLIS, do.
" GEORGE B. WALKER, Evansville.
" W. H. BYFORD, do.
" ISAAC CASSELBERRY, do.
" M. H. HARDING, Lawrenceburg.
" J. H. BROWER, do.
" J. G. GIRDNER, Greenville, Floyd county.
" M. J. BRAY, Evansville.
" J. L. MOTHERSHEAD, Indianapolis.
" LEVI RITTER, Pleasant Garden, Putnam county.
" WM. LOMAX, Marion.
" SAMUEL REID, Salem.

The Executive Committee reported the following as the order of business:

1. Report of the Committee on Admission.
2. Report of Officers of the Society.
3. Report of Standing Committees.
4. Report of Special Committees.
5. That a committee of five be appointed by the President, to nominate officers for the Society for the following year; and, also, delegates and alternate delegates to the American Medical Association for 1855.
6. That a committee of five be appointed by the President, to prepare resolutions for the consideration of the Society.
7. That any paper to be read before the Society, under the appointment of the Executive Committee, be presented at such time as the Society may designate.
8. That any who may wish to make any communication

to the Society, relating to the interests of the profession, have leave to do so.

9. According to instructions, the Executive Committee would amend the By-Laws, by recommending that a committee of three be appointed by the President, on the Practice of Medicine, with the Topography of the State, and as far as possible the Meteorological changes of the year.

10. A committee of three be appointed, to report on the Practice of Surgery.

11. A committee of three be appointed, to report on Obstetrics.

12. A committee of three be appointed to report on Chemistry.

13. A committee of three be appointed to report on Indegenous Materia Medica of the State.

14. A committee of three be appointed to report on Medical Education.

15. A committee of three be appointed to report on Medical Literature.

The President appointed the following committees:

On Resolutions.—Drs. Mothershead, Jessup, Town, Casselberry, and Chas. Ellis.

On Nominations.—Drs. Reid, Brower, Mothershead, Byford, and Lomax.

The three following resolutions, proposed respectively by Drs. Sloan, Sutton, and Brower, last year, having laid over one year under the rule, were called up by Dr. Town, and after proper discussion were adopted:

1. *Resolved*, That Sec. 4, of Art. 3 of the By-Laws, be so amended as to allow the Finance committee to assess a *pro rata* of $2, or not exceeding $3, upon each member of the Society.

2. *Resolved*, That the regular annual meeting of this Society shall be held at such a place as the Society may adjourn to, on Tuesday preceding the fourth Monday in May.

3. *Resolved*, That Art. 3 of the By-Laws, be so amended as to provide for the appointment of a standing committee on Vital Statistics.

Society adjourned to meet at 2 o'clock.

WEDNESDAY, 2 o'clock.

The Society met pursuant to adjournment, Dr. Harding, one of the Vice Presidents, in the chair.

Committees were then called.

The special committees were called upon to report.

Dr. Brower, from the committee on Vital Statistics, made a verbal report, with reference to the passage by our Legislature, of Registry Laws. The committee was continued for further consideration of the subject.

Dr. Bray, from the committee on Causes, Pathology, and Treatment of Schirrus, made a very able and elaborate report, which was referred to the committee on Publication.

Dr. McLean, from the committee on Chemistry, laid before the Society a lengthy report on the Progress of Chemistry. Referred to the committee on Publication.

Dr. Mayo, from the committee on Pathological indications of the Urine, made a lengthy report. Referred to the committee on Publication.

The report of the Treasurer was accepted, and referred to the Finance committee.

Committee on the Diseases peculiar to Emigrants, Dr. Harding was substituted for Dr. Gall.

Dr. Town, from the committee on Admission, reported the application of Dr. Hallock, a regular physician, to become a member of the State Society. Dr. Hallock being a vender of Patent Medicines, and unengaged in the practice of Medicine and Surgery, the Committee were adverse to the reception of the application. At the urgent solicitation of the applicant, the case was submitted to the Society for instructions. A very warm and spirited discussion ensued, in which a majority of the members participated, and after a fair and full expression of opinion, the case was, with great unanimity, referred back to to the committee on Admission, with instructions to report instanter.

The committee retired, and after a few minutes returned and submitted the following report, which was adopted:

The committee on Admission, after having the case of Dr. Hallock under consideration for membership, report it inexpedient to admit him a member of this Association.

The following resolutions were offered by Dr. Morgan and adopted:

Resolved, That any person wishing for the Reports of this Society, can obtain the same by sending the amount of the regular assessment of members to the Secretary.

Resolved, That the Secretary be instructed not to send the Report to any one who does not pay the usual assessment.

It was moved and seconded, that the Society now adjourn to meet at 9 o'clock to-morrow morning.

THURSDAY MORNING, May 18, 1854.

The Society met, and dispensed with the reading of the minutes.

The Finance committee submitted the following to the Society:

The committee on Finance would recommend an assessment of $2 upon each member of the Society.

Dr. McClelland, one of the committee on Milk Sickness, made a report, which was referred to the committee on Publication.

Dr. Byford, the chairman of the Executive committee, submitted the following:

The Executive committee would recommend, that a committee of one, on the History of Surgery in Indiana, be appointed, to report at the next annual session of the Society.

Adopted.

Dr. Town, from the committee on Resolutions, submitted the following, which were adopted:

WHEREAS, the legitimate objects of this Medical Association, are the advancement of the interests of the Medical Profession, and the promotion of all lawful enterprizes intimately connected with the Science of Medicine and Surgery, and not for the purpose of promoting men, and swelling our numbers by the admission of applicants; and, whereas, none but regularly educated Physicians, or such as have enjoyed

ample opportunities of improvement in Medical Science, are suitable persons to become members of this Association, and to whose watchful care and protection alone can such weighty interests be safely entrusted; therefore,

Resolved, That no Physician can hereafter become a member of the Indiana State Medical Society, who is not either a graduate of some respectable Medical School, or a member in good standing of some local Medical Society, or comes recommended by the nearest local Medical Society to which he may live.

Resolved, That a standing committee of three, with Dr. Brower as chairman, be appointed on Vital Statistics, whose duty it shall be to digest and mature a Registry law, and report to the next Legislature for its passage.

Dr. Brower offered the following resolution, which was passed:

Resolved, That a committee of three, of whom the Secretary of the Society shall be *ex-officio* a member, shall be appointed, who shall be empowered to forward to any member who may express a desire to attend the National Medical Association, a certificate of appointment.

The committee consists of Drs. Graham, Town, and the Secretary.

Dr. Byford made a report respecting the late meeting of the American Medical Association at St. Louis. The Dr. gave a full and accurate report of the proceedings of the Association.

On motion of Dr. Brower, the thanks of the Society were tendered to Dr. Byford, for his able report.

On motion of Dr Casselberry, it was

Resolved, That the next annual meeting of this Society be held at the city of Indianapolis.

On motion of Dr. Reid, the Code of Ethics adopted by the American Medical Association, was directed to be incorporated in the published transactions of the Society.

The committee appointed to report on the number of Practitioners in the State, was continued.

The committee on Finance beg leave to report, that they have examined the report of the Treasurer, and find it to be correct; and that he has paid forty-five dollars and eighty-six cents more than he has received. The committee would further recommend, that an assessment of two dollars be

made against each and every member of the Society, for the purpose of defraying the current expenses of the year.

DANIEL MORGAN, *Ch'm'n.*

On motion of Dr. Hatchett, it was

Resolved, That the committee on Nominations do now report, and that the Society go into an immediate election of Officers for the ensuing year.

The committee on Nominations made the following report for Officers of the ensuing year:

For President.

MADISON J. BRAY, M. D., Evansville.

For Vice Presidents.

Dr. O. L. CLARK, Lafayette.
" P. S. SHIELDS, New Albany.
" J. PENNINGTON, Milton.
" J. L. MOTHERSHEAD, Indianapolis.

For Secretary.

Dr. CHAS. BOWMAN, New Albany.

Assistant Secretary.

Dr. H. D. HENDERSON, Salem.

Corresponding Secretary.

Dr. HUGH RONALDS, Evansville.

Treasurer.

Dr. J. L. MOTHERSHEAD, Indianapolis.

Librarian.

Dr. S. RITTER, Putnam county.

Delegates to American Medical Association.

Dr. R. T. BROWN, Crawfordsville.
" ED. MURPHY, New Harmony.
" ED. ALBERTSON, Canton.
" J. PENNINGTON, Milton.
" J. S. BOBBS, Indianapolis.
" G. B. MITCHELL, Mooresville.
" WM. DAVIDSON, Madison.
" E. DEMING, Lafayette.
" T. BULLARD, Indianapolis.
" J. MOFFETT, Rushville.
" R. WILLARD, Oswego.

Dr. C. Fishback, Shelbyville.
" H. D. Henderson, Salem.
" H. M. Smith, Vincennes.
" S. M. Linton, Columbus.

Committee on Admission.

Dr. Wm. H. Byford, Evansville.
" G. W. Mears, Indianapolis.
" J. S. McClelland, Jefferson.
" Ed. Murphy, New Harmony.
" Clay Brown, Indianapolis.

The President then appointed the following standing committees for the ensuing year:

Executive Committee.—Drs. Mothershead, Bobbs, Brower, Hunt, and Lomax.

Committee on Publication.—Drs. Town, Sloan, Bowman, W. A. Clapp, and Wilson.

Committee on Ethics.—Drs. Brower, Kersey, Mears, Town, and Sexton.

Committee on Finance.—Drs. Parry, Harding, Ronalds, Funkhouser, and Hitt.

Committee on Practice in Indiana.—Drs. Brower, Somes, and Deming.

Committee on Practice of Surgery in Indiana.—Drs. De Bruler, Bobbs, and Lomax.

Committee on Medical Literature.—Drs. A. Clapp, Byford, and Reagan.

On motion of Dr. Brower, it was

Resolved, That the Secretary be instructed to furnish with each copy of the following report, such blank forms as may be furnished him by the chairman on Vital Statistics.

Dr. Brower then offered the following resolution, which was made the order of the day for this afternoon:

Resolved, That this Society regard with great satisfaction, the project advanced by Drs. Ronalds and Byford, of Evansville, of publishing a Medical Journal at this place, as a ready and appropriate means of intercommunication, by the profession throughout the State, on subjects connected with medical science, and eminently entitled to the cordial support of every member of the professsion.

THURSDAY, 2 o'clock.

The Society met pursuant to adjournment. Dr. McCLELLAND, one of the Vice Presidents in the chair.

Dr. Brown proposed to take up the resolution laid on the table at the close of the morning session, in relation to the Evansville Medical Journal.

After the passage of this resolution, it was ably and eloquently discussed. Many members from abroad supported the project of the publication of a Medical Journal in Evansville, with zeal and ability.

Dr. Byford, being called upon for a speech, favored the Convention with an exposition of his views, in relation to the necessity of the publication of a Medical Journal in Indiana, in which he sustained his position with marked ability. He thanked the Convention for the generous disposition manifested toward the support of the enterprise.

Dr. Town moved, that a committee of three be appointed, to take such steps as may be necessary for procuring a charter for the Association—passed.

The committee consists of Drs. Mothershead, Parry, and Mears.

Dr. Hatchitt offered the following resolution, which was passed:

Resolved, That the executive committee so amend their report as to provide for one committee for the Practice of Medicine, and another on the Medical Topography of the State.

On motion, the special committees were then filled up, as follows:

Committee on Neuralgia.—Drs. Morgan, Grimes, and Jessup.

Committee on Scarlatina.—Drs. Flora, Fry, and Kersey.

Committee on the Practice of Medicine.—Drs. Ronalds, Johnson, and Blunt.

Committee on the History of Surgery in Indiana.—Drs. Bray, Bobbs, and Casselberry.

Committee on Obstetrics and Puerperal Fever.—Drs. Graham, Murphy, and Flora.

Committee on the Diseases of the Eye.—Dr. Fry.

Committee on Medical Topography.—Dr. T. Brown, chairman.

Committee on the Causes, Pathology and Treatment, of non-malignant Tumours.—Drs. Sloan, Davidson, and Reid.

On Diseases and Displacement of the Uterus.—Drs. Walker, Lomax, and Jewett.

On Typhoid Diseases.—Drs. Mothershead, McFarland, and Sexton.

On the Progress of Medicine.—Drs. Brower, Clark, and Coleman.

On the Progress of Chemistry.—Drs. McLean, Brown, and Newcomer.

On Medical Education.—Drs. Mears, Bray, and Deming.

On Diseases Peculiar to Emigrants.—Drs. Harding, Chesnut and Link.

On Erysipelas.—Drs. Sutton, Wilson, and Ritter.

Dr. Sloan offered the following resolutions:

Resolved, That the thanks of this Society be tendered to the Evansville Medical Faculty for their Hall, and the Medical profession at Evansville for their hospitality.

Resolved, That the thanks of this Society be tendered to Dr. Bray, for his entertainment.

Dr. Reid offered the following resolutions:

Resolved, That the thanks of this Society be tendered to Dr. Deming, for his very able address.

Resolved, That the thanks of this Association be tendered to the Press, for their attention during the sitting of the convention.

On motion, the Society adjourned to meet at Indianapolis, on Tuesday preceding the third Wednesday in May, 1855.

E. DEMING, *President.*

CHAS. BOWMAN, }
D. H. JESSUP, } *Secretaries.*

ADDRESS

OF THE

PRESIDENT, E. DEMING, M. D.,

BEFORE THE

INDIANA STATE MEDICAL SOCIETY, MAY, 1854.

Gentlemen of the Indiana Medical Society:

In selecting a suitable theme for our discourse, we have encountered not a little difficulty. Our field is so broad and rich, and so earnestly and laboriously cultivated, that it is no easy task to present anything new or interesting in a popular manner. We shall, however, try to offer a few thoughts on the moral dignity of the Medical profession and the influence of the age upon its literature.

The moral dignity of an enterprize, art, or profession, is connected with or has relation to the means, value and utility, together with the motives of their actors and their ultimate or final results either on individuals or the races. Thus the power of the great and living ideas of past ages, is owing to the moral dignity with which they are clothed. It is this that has given them their vitality—that has made them enduring. By this they have at all times, in all countries, and in all ages, commanded the homage and reverence of the universal heart. It was the moral dignity of the enterprize that enabled Peter the Hermit to move Europe in one convulsive effort for the rescue of the Holy Sepulchre from Infidel sacrilege, and it will live with all its thrilling incidents in the literature of civilization, when his name, whose thronging legions passed the Virtula, and from whose brow the iron crown of Charlemange was melted in the fires of Moscow, shall be forgotten.

The moral dignity of the medical professsion, arises from adaptation to human wants and necessities. Ever since disease has been the appointed inheritance of man, the varied ills that flesh is heir to has called forth aid and sympa-

thy for their alleviation and removal. The demands of society are competent skill and qualification. The men of our profession who have voluntarily devoted themselves to this work, have with a genuine spirit of self denial, entered the world's great "Lazar house, where despair busily tended the sick from couch to couch, and over all triumphant death held high his dart, but delayed to strike."

To realize in all its force the moral dignity and excellence of the healing art, we must first of all look at man as he is in the state of health, in the full and perfect possession of his physical powers and mental qualities, in the development and exercise of all those faculties which make him *man*, and by the exercise of which he has obtained dominion in its most widely extended signification; that have imparted to him almost creative power, thereby enabling him to leave the imprint of that power every where upon earth—those endearing monuments that show the combined results of mind—these are yet visible in their solitary grandeur, in the dim and shadowy past, in those lands where the pyramid and shaft are the only marks and indices of the sepulchres of nations. They can be traced through all the vicissitudes that constitute the lights and shadows of human history down to the time where his living power is seen in making the lightning the vehicle of his thoughts and uniting continents by the power of the steam engine. Man, this contriver, this mover, this builder, this agitator, may become diseased, prostrated, paralyzed. That machine whose motive power gave impulse, life and activity to every thing, may become motionless, passionless; the avenues of thought may be closed; reason may desert her throne; fever may burn; joint-racking rheumatism may agonize, and pining atrophy make the most brilliant countenance haggard. Now, to this wreck of what was made "a little lower than the angels," legitimate medicine advances, soothes all pain, quiets all agony, cools the burning brow of fever, enthrones mind, opens once more the gates of reason, and through intervening clouds points the sufferer to a brighter and a better day-spring. The moral dignity of our profession is manifested by continual devotion to those scenes of suffering and distress, not alone or only where the afflicted are surrounded with every earthly comfort; not alone where aching heads repose on downy pillows; but where poverty combines with the pestilence that walketh in darkess and the destruction that wasteth at noon-day. In all these situations, and under like circumstances, the true dignity of the medical profession is seen. Here it stands forth confessed. It has

been among the haunts of unmixed misery, that the poisoned javelin of the pestilence has so often fastened on the vitals of medical heroes, who have sacrificed themselves as ministers of relief to their race. We contend, if good deeds canonize their author, that the medical profession can justly lay claim to a large calendar of saints; and if self-sacrifice for public welfare, in arresting the march of disease, entitles the memory of men to be held in remembrance, our registers will reveal a noble array of martyrs. That scroll is of no recent date—the brilliant names of more than twenty centuries are written there. The moral dignity of the medical profession is also conspicuous in its condescension to the poor and oppressed, by its munificent donations and professional aid in the endowment of hospitals and various public charities, for giving relief to those who have no means of helping themselves. In this respect, its great excellency consists in its efficiency and universality. Such has been the influence of our profession, that houses for the reception the sick have been opened in all truly civilized countries, so that the stranger and the wayfarer of every country, clime and caste, whose necessities demand it, are cordially received.

We by no means deny, that other individuals besides those of our profession, have been engaged in those enterprises. We acknowledge they have often largely contributed the means—that whole communities have often given generous and munificent aids—that in many instances, governments have liberally added their strength; but the great idea, the perpetuity, the extensively diffused uses, belong to enlightened medicine, under the purifying influences of christianity.

Again, the moral dignity of the medical profession is evinced, in the alacrity with which its members have devoted themselves to the investigation of all the varied forms of disease, and to the discovery of remedies, as well as the adoption of sanitary measures to stay the desolating march of pestilence. Like prudent commanders, they watched the enemy while afar off; they have been vigilant keeping an eye upon his outposts. While whole communities have been apparently indifferent, while individuals have thought of nothing but their own safety, the medical profession have boldly met the advanced guard of death, by going into countries far from their own homes, and by their observation of facts and study into the causes and peculiarities of alarming epidemics have greatly mitigated their horrors and by judicious means measurably disarmed them of their terrific force. When the pestilential fever invaded the south

of Europe, when the epidemic cholera swept on from the jungles of India, folding in its raven wings half the population of our globe, did those individuals who had the greatest pecuniary or family interests at stake volunteer to go to the field of destruction and render their aid to the suffering? No sirs, it was Louis, Lombard, and others of our profession.

How superior their moral courage to that of the warrior, both in its exhibition and results—the one class ministers of evil, the other heralds of mercy—the glory of the one is written in blood and fire, the good deeds of the other is enduring characters on the everlasting tablets of the human heart. The moral dignity of the medical profession is also manifested in their research into all those branches of science that can yield any aid in perfecting and improving the healing art. By Botanic explorers, an almost indefinite number of remedial agents have been gathered from the vast field of nature in the vegetable kingdom. The treasures of the mineral kingdom have also been made subservient to the wants of man in the treatment of disease, and earth from her surface and bosom has yielded her riches conducive to this end in every climate and every zone. The most splendid monuments of the moral dignity of the healing art, are the records of written medicine laid up in the world's archives. By their careful perusal, we learn the motives of the writers and the value and utility of their labors.

No other human records embody so many and important facts in which present and future generations are deeply interested. Written medicine gives us the knowledge and experience of a vast number of talented and devoted minds, in the treatment of disease. Its records mark some of the prominent epochs of human progress; they show in all their diversities, deep thought, superior wisdom and veneration for order, love of truth, and a most expansive philanthropy. The moral dignity of the medical profession is evidenced by its conservative influence over its members, by their general character for conformity to the rules of morality and social order. We are aware that it is not uncommon to charge our profession with latitudinarian sentiments on these subjects; but we venture to affirm as a class, that we are not behind any other in general morality and orderly conduct. It is also said we are wanting in a sufficient regard to the conventional forms and dignities of the higher states of society. For aught we know, this may be true to a certain extent. If it is, it results from circumstances that constantly surround us from our general association and our knowledge of the afflictions incident to both the highest and the most lowly of

the race. We every where find pain as excruciating and uncomfortable to be borne by the lowly as the exalted. We see the ties of love and friendship as strong among the trodden down of earth, as in its lofty and more fortunate ones. The separations of death come with as much keenness to the abodes of poverty as to the palaces of wealth, and the vision of faith is as bright from the couch of straw as from the bed of down.

The moral dignity of the medical profession is enhanced by the importance and variety of the trusts committed to it. The vastness of these trusts are seldom realized. They reach through the whole track of human existence. They often extend from germinal life to fourscore years. They are connected with the entire physical and moral development of man from infancy to adolescence, from that to manhood, from manhood to old age, from the "puling infant in its mother's arms," to the "soldier seeking the bubble reputation at the cannon's mouth," and onward, through all changes, until he is "sans eyes, sans teeth, sans everything."

A profession possessing the characteristics to which we have referred, must have an extensive and constantly increasing literature, which is necessarily influenced and moulded by the spirit of the age—by the existing power of thought—so far as directed to the consideration of its specific subjects.

In discussing this portion of our subject, we are compelled to be somewhat diffuse, and to notice many collateral points which belong to the aggregate; inasmuch as the thinking of an age or epoch essentially affects all its literature, though in a different degree. Hence, from great agitation and movement, when made in a right direction, moral, intellectual and scientific elevation and progress is the result. When great thoughts produce their effervescence in the community, the scientific mind receives an impulse, and amidst their agitations, important truths are brought to birth, which tell in the long future on human destiny. We think, as a whole, the influence of the spirit of the age has been favorable on medical literature. Although there is a great amount of what may be properly called surface work, still the majority of the laborers in our profession are penetrating the crust, and sinking the "shaft deep into the quartz where the richest veins lie." These hard workers in the mines of science, are continually making new and valuable discoveries, they are bringing up treasures of truth for the benefit of suffering humanity. In this age a large advancement in the natural sciences, which are our collaterals, has

been made, and the advantages resulting therefrom promise to be of permanent utility. Old forms have not only been "pushed to their utmost boundaries," but hitherto untrodden fields of study have been opened; and not only opened, but extensively searched, and their hidden treasures brought to light.

In this age Geology, Electro-Chemistry, and Meteoralogy appear as almost new sciences. Our present botanical arrangement is greatly superior to that of Linneas, and we have the "enumeration of one hundred and twenty thousand species of plants, with their special description, instead of of the eight thousand known to the Father of Botany." In this age, Humboldt, by individual effort, has accomplished scientific objects, almost single-handed, worthy the power and energies of an empire. He, and his companion Bonpland, have penetrated the interior of South America, and the results to our profession is the addition of six thousand new plants in the number above referred to, many of which possess great medicinal powers. Besides all this, he determined the positions of a large number of astronomical points. This age has greatly perfected zoological classification and arrangement, and is constantly adding to its already largely accumulated stores. It is said at the present time, that Entomology numbers three hundred thousand varieties. Geological science has been almost "created in this age, and the number of facts ascertained are of the most important character. A very large amount of fossil plants and animals, terrestial, marine, and amphibious, have been made known and classified." Some of these are of immense size and of peculiar character.

Minerology, which has been so greatly enriched, has in this age resulted in the formation of a new science, Crystallography, "a science which observes and describes the regular figures of crystals, and the laws of their formation." In this age, Galvani, apparently without much study or earnest research, found the "action a metal upon electricity deposited in the animal economy." Within a short period after this, another man of thought and true genius, reproduces these very experiments of Galvani. What has been the results to science of the reproduction of these experiments? We answer they have renewed the discovery of Galvani, by giving it precision—renewed by consequences which he draws from it, and invents an instrument which not only plays with electricity, but almost indefinitely augments its force. It has been affirmed by a master mind that the pile of Volta, the maker of the electrometor, is

for the decomposition of bodies, that is, for the profoundest part of experimental physics, what the microscope is for natural history.

Chemistry, if I may so speak, is one of the creations of this age. It is one of its active, scientific and all-prevading powers, and it must be classed among the grand and lofty results of the philosophical analysis of the present age. We can form no estimate of our indebtedness to its anylitic powers for the development of our extended therapia. How greatly has it strengthened our armory by its explorations of the exterior elements of a large class of essential remedies, so that we may now in our every-day practice realize, in all its fullness, efficiency and power, the grand but long-ridiculed idea of Paracelsus, that medicines would in time be given in their quintessences. Chemistry not only separates the peculiar elements of medicinal substances, but exhibits their varied qualities, and reveals the law of their relations, thereby furnishing medical men of this age means for defence against disease, and power to combat it in all its varieties and insidious forms, in all climates, for which antiquity, with its knowledge and civilization, had no remedy. What agencies have been brought out of mercury, opium, and bark. Look for a moment at the catalogue of diseases that have been measurably disarmed of their terrors by these agencies. Syphillis, tetanus, pestilential or pernicious malarious, constitute their types. Chloroform is a remedy that in this age marks our literature through the power of chemistry, by its influences in rendering the system insensible to pain and by producing calmness and serenity under the most terrible operations of surgery. To woman, suffering woman, it is the millennial elixir.

To this age belong the discovery of the disinfecting agents that so decidedly neutralize, modify and change the miasmatic particles or atmospheric conditions, as greatly to lessen epidemic influences of several diseases.

The utility of chemical revelation is not alone confined to material for the treatment of disease, but they extend to man himself, both in his normal and abnormal states, opening many of the profound mysteries of his organization, and in this age casting light through all the labyrinths of the grand temple of physiology, thereby more clearly developing its special province in investigating the different ways and manner in which "the functions of living beings are affected; all this involving a careful examination of their chemical constitution, mechanism, and the properties of their component structures; thus, by a correct physiology," laying the

foundation of rational scientific medicine. Hence a comprehensive knowledge of physiological anatomy is absolutely necessary to a correct diagnosis of disease. In this department of our literature, the spirit of the age is exerting healthy influences, by bringing before us all necessary collateral aids for the clearest illustration and the most perfect demonstration of physiological facts. These facts embrace all the organic actions in their different relations and connections with all their sympathies and direct or reflex actions, with all the sensibilities, with all the appropriate and eleminative power belonging to the entire mechanism in health. This portion of our literature to which we have briefly referred, although spread over a vast field, being the combined result of many scientific laborers, yet converges to one point, the establishment of a true pathology. In this respect, this age surpasses all others in the richness of its material and the extent of its cultivation. In this department chemistry and the microscope display their powers. Their combined influences in the effects they have already wrought, are only the first fruits of a rich and abundant harvest. The revelations made by chemical analysis, of the mysterious elements of secretion, the changes wrought in glandular action, and the consequent eliminations resulting from morbid processes, are now being spread out in broad light. By these media, the causes and arcana of diseases are more clearly apprehended and rationally understood. On many intricate pathological states, there is less of hypothesis and more of truth; less of doubt and obscurity, and more of certainty.

Pathology, in this age, is indebted for its advancement to another idea—to what is properly termed organic individuality. The study of the functions of the various organs, their relations and reciprocal influences, both in healthy and diseased conditions, has greatly increased our knowledge of their individual states, and of the nature and peculiarities of their separate and organic life. This principle of tissue life developed by Bichat, has since his time been greatly enriched, and the miners in this department are continually finding ore of the most valuable kind. Comprehensive views of these subjects in their organic relations are pathologically of great importance, as is often manifested in profoundly abnormal conditions of the brain, spinal chord, kidneys, liver and uterus. It is this knowledge of the individuality of organic life, together with the modifications of organic excitability by disease, that will enable us to make a successful application of our therapeutic agents.

The influence of the spirit of the age upon the literature of our profession, is no where more conspicuous than in what we shall term our malarious pathology, or the special pathology of the diseases of tropical countries, and of those endemic localities in our western and southeru States. On this subject we of the west have a living name, Dr. DANIEL DRAKE, although his sun went down on the banks of his own beautiful Ohio, in the city of his early home, he has left behind him a track of light which will long cast its brilliancy over the whole length of the father of waters.

We here observe, at the risk of being deemed singular, that malarious pathology is of a definite kind, and of special practical importance to all who practice our profession in the Mississippi valley. Certain impressions made on the organs of the great cavities of the human system, in our western and southern endemic localities, always bear a uniform appearance. They have a striking and unmistakable family likeness, so that the practised eye every where easily recognises them, and the group to which they belong. They present many and singular phases, and have marked and distinct peculiarities. Why the periodic impressions of an impalpable agent often widely diffused throughout the atmosphere, and subject to the changes and variations of the atmospheric currents, should over a large extent of territory produce effects and results nearly identical on the human organism, need not now be argued; but the fact that therapeutic agents, of anti-periodic character, remove these abnormal conditions of the great abdominal and thoracid viscera, is sufficient warranty for our phrase malarious pathology. Again in the endemic localities to which we have referred the modifications of malarious diseases by inflammatory action, does not exempt them from the law of their primary causation. When malaria makes a decided impression, or rather one of a permanent character, on the excitability or tissue life of an essential organ, its normal condition cannot be restored without the application of the appropriate anti-periodic remedy. This is frequently seen in the numerous cases of intermittent apoplexy of pernicious fevers in pneumonia, splenitis, chilopoetic congestions, paludal cachexias, pyperemia and the like, where if the lancet is needed, it must be followed by quinia.

The influence of the spirit of the age upon the literature of our profession is largely exemplified by the success of the ectrotic or abortive treatment of certain diseases, the early application of appropriate remedies, frequently breaking the organic and associated trains of morbid action and restoring *the normal* power of the system.

The subjects referred to are sufficient for the illustration of our idea. The facts suggested evidence the large progress of the healing art in all its departments. The excellencies of the past, combined with the light and truth of the present, add greatly to its power. We are thereby made the sharers of all the rich thoughts and the grand ideas that have been brought down to us by the river of time. Some we are aware, affect to disregard things antiquated; but, in our profession, this kind of research is imperative. We like to examine old deposits, whether mental or physical. There is a marked analogy between them, and careful explorers in both departments are always richly rewarded by new and important discoveries. We often find buried thoughts, conceptions and ideas in the one, as vast, grand and majestic as are the physical remains of animal existence in ancient ages in the other.

The influence of the spirit of the age on our profession, is manifested by the large number of practical facts that have been brought to light, a great portion of which are of direct adaptation to the treatment of disease. Now, more than at any previous time in its long history, is the science of medicine the science of facts. The relations of therapeutic agents to pathological conditions and the laws of abnormal action, in their whole extent embracing all the varieties, are better understood. Time forbids our enlarging, by entering into particulars. The professional eye can easily survey the whole field, and comprehend its extent. Of this field Indiana forms an important part, both from its location and medical topography. Its southern margin bounded by the Ohio river, from the Miami to the Wabash; its northern terminus being in the region of the great lakes, it will at once be seen that we are subject to climatic influences of a variable nature. These climatic influences, with the general medical topography of the State, together with the history of our endemic localities, have already commanded much attention from the profession in our State. The reports of this Association already combine a large and interesting amount of practical knowledge, both medical and surgical. From the extended observation and professional research of the medical men of Indiana, we have much to hope. There is among us an awakened spirit of energy, directing our best trained minds to the calm and thoughtful consideration of our endemic and epidemic diseases, with their causes, and prophylaxis, and remedies. Every yearly gathering of our State Society, in its discussions and written communications, clearly exhibits advancement and progress, bespeaking

for us a future of eminence and usefulness. Let it be our ambition to add to the store of medical knowledge that which will be permanent and enduring—facts of practical value, such as will stamp themselves on human society, and be renewed and live, and partake of the vitality of the generations of men, like the discovery of the circulation of the blood by HARVEY, or the cow-pox by JENNER. Facts that may be practically adapted to all the phases of human suffering, with such appropriateness, such clear and scientific definiteness that we may, in regard to the treatment of disease, adopt the Roman maxim, "*nulla vestigia retrorsum*," no restraining of our footsteps.

REPORT

ON THE

SYMPTOMS, CAUSES, PATHOLOGY,

AND

TREATMENT OF SCIRRHUS.

BY PROF. M. J. BRAY.

One year has elapsed since the undersigned had the honor of being appointed chairman of a committee by this Society, on Symptoms, Causes, Pathology, and Treatment of Scirrhus.

Dr. Moffat, my worthy associate, has sent me a valuable and interesting paper, which I regret came to hand so late; as I would like to have embodied more of it in this report. I am pleased to learn from him, that his views on the most essential points, are quite similar to my own.

In making this report, we have been thrown on our own resources. We have not had time to write and receive replies, since we have been supplied with a copy of the proceedings of the Indiana State Medical Society, the only means by which we could get the address of physicians in different parts of the State. With these introductory remarks, we will proceed to offer for your consideration a few ideas of a general character, on the Symptoms, Causes, Pathology, and Treatment of Scirrhus.

Scirrhus is a heterologous formation, differing from the balance of the family in some particulars. It prevails in every known country and climate, but from limited observation, we think it is more prevalent in the North, than in the South, and visits the inhabitants of the crowded metropolis, more frequently than those of the salubrious and sparsedly settled country. It was known to the Fathers of Medicine, Hippocrates, Celsus, and Galen, and to most of the reputable surgical authors since their time; but it has not been intelligently described until within the last half century.

The symptoms have been designedly mystified by some writers, and by others blended with the symptoms of other adventitious growths, and spreading ulcers caused by peculiar idiosyncrasy, or constitutional derangement. The treatment was in many cases concealed and irrational. It frequently consisted in nothing but touching the disease with the hand, and repeating a few disconnected phrases without meaning, and in peculiar incantation, which was calculated to appeal powerfully to the imagination and superstition of the patient. Such was the treatment anciently, and such is frequently the magnum remedium of the present day. Gross, Warren, Mott, and Gibson; our own distinguished and highly esteemed countrymen, names known with household familiarity to all; Carswell, Bell, Cooper, Abernethy, Velpeau, Skey, Chelius, Paget, Gluge, and many others, have stripped the subject of mysticism, patiently analyzed the disease, and plainly marked the connection between it and similar heterologous growths, in a clear, concise, and elegant manner.

For the better description, Scirrhus may be divided into three stages. The first, is the stage of formation; the second, that of growth; and the third, is the stage of decay or ulceration, which is sometimes denominated open cancer or carcinoma.

Scirrhus, at its commencement, may occupy a minute and limited space; it may be confined to one of the mucus or sebaceous follicles, or to one of the acini of the liver. The forming stage is remarkable for mildness, and the unexpected manner in which it steals upon the patient, who is not conscious, frequently, of approaching danger, until he has been apprised of it by some friend or physician.

In its primary stage, it is known by its excessive firmness, or as it is sometimes expressed, its cartilaginous or hardness. Its external appearances, such as shape, size and feeling, when contrasted, widely differ, being apparently modified by the tissue invaded; while its internal organization or structure is nearly the same under all circumstances. It most frequently comes in the shape of a hard and noduled tumor; its boundaries not well defined, especially if it invades a glandular organ, as the mammary gland; but when situated on a free surface, like the the membranes and skin, it frequently assumes the form of a red, blue, or purple pimple, with an indurated or hard base, or like a small and circumscribed blister, which matures and breaks in a short time, and exposes an ulcer, with hard serrated edges. I removed a cancer which had implicated the whole of the

penis,—it commenced on the skin of the prepuce, in the form of a small blister,—the operation was performed in the presence of the Medical Class. The specimen has been preserved, and may be seen in the Anatomical Museum. The wound produced by the operation healed, and the patient has improved in flesh and strength, and as yet there is no sign of its returning, which is to be feared and dreaded.

I have recently seen two cases of the dermoid tissue, which, in their external appearances, resembled a depressed or flattened tubercle. The sebaceous follicles were enlarged and distended with cancerous substance. I operated in both cases, and removed one from the neck, just behind the angle of the lower jaw, and the other from the left side of the face; both specimens have been preserved, and may be examined.

Scirrhus seldom occurs as a primary disease in the bones, they are more frequently affected with medullary, osteoid, or colloid diseases. When it does attack them, it is in the cancellous structure; the outside is seldom changed at first, but when all the bony structures are implicated, they are expanded into an irregular framework of plates and bands, the interstices of which are filled with a cancerous material.

After Scirrhus has been organized, it may commence to grow, but its growth is very gradual. It may remain nearly stationary for months, and in some few cases, for years. The rapidity of its growth is different, in different cases, or in the same case at different times. When it occurs in the young or corpulent, it is generally more rapid than when it occurs in the aged or emaciated. The increase appears to be by gradual superaddition of new particles on the surface of the mass already existing.

As soon as the Scirrhus commences to grow, it is accompanied with pain, which is the first symptom of the second stage. The pain is at first slight, and just perceptible; but gradually increases with the growth of the tumor. It comes on in paroxysms, with distinct intermissions; the paroxysms continue to increase in frequency, and in severity, while the intermissions grow shorter, until the pain is continuous. At first the pain is sharp and darting, but only momentary; soon it becomes acute and lancinating, and subsequently continuous, obtuse, and burning.

Some patients suffer but little in comparison with others, through each stage of the disease. In extreme cases, the sufferings are almost insupportable, and, not unfrequently, for the sake of freedom from such fierce anguish, the patient

looks forward to the period of final dissolution with feelings of pleasure and of happy resignation. After it commences to grow, it gradually loses its distinctness, and is blended with the adjacent parts,—it increases in density, and its weight is out of proportion to its size. It indicates an inclination to spread, by extending its own morbid growth into the adjacent healthy tissues, and converting them into itself; everything tends towards its center, as if drawn there by a nucleus of attraction. This phenomenon causes the skin to corrugate or wrinkle, and when a Scirrhus is situated in the mammary gland, the nipple is drawn in or inverted—if cut, the surface will be cupped or concave, a symptom peculiar to Scirrhus, and worthy of remembrance.

When a Scirrhus invades a tissue which is in the neighborhood of lymphatic glands, they show symptoms of disease by swelling. This occurs in the latter part of the second stage. If it is in the breast, the axillary glands are affected —if in the genitals or illiac region, the glands of the groin.

I was, but a short time since, requested by a female patient, to extirpate a Scirrhus cancer, which was situated just above Poupart's ligament of the right side. It was very large, and had ulcerated in several places. It had been neglected until the disease had undermined the constitution and the health of the patient was destroyed. I discouraged an operation, and advised a palliative treatment; but she immediately applied to a quack doctor, who promised her a speedy cure. He applied a caustic plaster, which was principally composed of the oxide of arsenic—the poisonous mineral was absorbed, and caused the worst constitutional symptoms, such as constant nausea, occasional vomiting, burning in the stomach and bowels, and general paralysis. I visited her just before dissolution, by her request; it is needless to say, that nothing could be done, but death soon came to her relief. and closed the scene.

When Scirrhus is situated in the immediate vicinity of the skin, this tissue is soon implicated in the local disease; at the latter part of the second stage it turns a dark red or purple, is frequently indurated and thickened, and sometimes tortuous veins, distended with dark blood, may be seen coursing through it. This appearance is caused by the obstruction of the capillary circulation When ulceration occurs, it may commence on the exterior or interior of the tumor. If it commences upon the outside, it is caused by the congestion of the skin, terminating in unhealthy inflammation, which runs rapidly into ulceration—sometimes the capillary vessels relieve themselves by serous effusion, which

occurs just beneath the cuticle, and forms a small blister, which matures, breaks, and leaves an abraded surface, which increases by ulceration; or the serum may concrete, and form a scab, which soon exfoliates, leaving an unhealthy ulcer, which commences immediately to spread. The process is somewhat different when ulceration takes place from the interior,—it occurs by one or more small portions of the Scirrhus softening just beneath the skin, which becomes thinner until it breaks; caused by the mechanical pressure of an ichorous material, which escapes, leaving an uneven and unhealthy ulcer, and thus an open cancer is formed, and constitutes the third stage of the disease. The ulcer gradually spreads in every direction; its progress in the most of cases is not rapid, and the sufferings of the patient are not essentially increased—the edges of the skin which surround the cancer are thickened, and frequently discolored; they may look blue or purple, also inverted and serrated or notched —softening of the Scirrhus may occur in more than one place, producing two or more discharging surfaces, which are at first separate, but subsequently coalesce one with another—its base presents a variegated appearance, is uneven and irregular, and is bathed with a sanious or ichorous matter, which emits a disagreeable odor; frequently during some period of the disease, there are portions of the ulcer which look as though nature had made an effort to restoration, and small, hard, and unhealthy granulations spring up bathed with a thin or sanious pus; in other places may be seen shapeless fungus growths spring up, which bleed from slight mechanical injuries, as, perhaps, the chafing or weight of the clothes, the hemorrhage in such cases reduces the little remaining strength of the patient—these adventitious growths may turn dark, slough, and leave an ill, uneven ulcer. The constitutional symptoms, which are slight in the first stage, claim the particular attention of the surgeon. To a close observer, even from the first, he discovers a state of ill health, which cannot be solely attributed to the local disease, and which is denominated cancerous cachexia; the patient looks languid, feels depressed, and becomes slightly emaciated; the appetite changeable; tongue at times coated, tip and edges red; bowels sluggish or constipated; all of which indicate that something is wrong with digestion, assimilation, and nutrition. As soon as the pain increases, the signs of general disorder advance; to use Sir Charles Bell's own expression, "the general condition of the patient is pitiable", the countenance is pale, with a slight leaden hue, and expressive of great anxiety; the appetite

fails, and is followed with loss of strength, and with emaciation; the pulse is small, feeble, and frequently accelerated; the general appearance of the patient plainly indicates that the system is invaded by some deep seated disease; the yellowness of the skin increases, and the cancerous cachexia which may have been scarcely perceptible at first, is firmly established; the patient suffers with wandering pains in different parts of the system, which resemble rheumatic pains, and frequently complains of chilliness, and feelings like those caused by a cold current of air passing over the surface, or like insects crawling over the skin. When the mammary gland is the seat of the disease, the patient is frequently troubled with a cough, and with pains which emanate from the cancer, and shoot through the chest in every direction. These symptoms generally occur in the third stage of the disease, and they plainly indicate that the lungs are involved in the general affection.

As soon as the pain of Scirrhus disturbs the sleep of the patient during night, hectic fever, with its worst symptoms supervenes, with regular night sweats, and colliquative diarrhœa; dropsical effusions in the chest or abdomen generally follow; the lower extremities swell, and the last vital spark of life is extinguished, either by exhaustion produced by hectic fever, or from excessive irritation and pain of the cancer.

It has been stated that Scirrhus has a uniform organization, and only differs in the color of the fibrous tissue, in the size of the meshes, and consistency of the cancerous germ. It is composed of two distinct substances, fibrous and granular. The fibrous tissue is the frame-work of the tumor; it is hard, and very tough, feels like ligament, and cuts like cartilage. If a thin slice be taken from a Scirrhus tumor, where the mass is thickest and firmest, it can be seen with the naked eye to be semi-transparent; the color may be bluish white, slightly yellow, or, in the last stage, opaque and dark; it is different in different cases, and in the same Scirrhus in different portions of it. The fibrous tissue may be seen to emanate from one or more seperate, dense centers, from which they diverge in every direction; the fibres cross and interlace one another, so as to form a continuous and uniform net-work of filamentous tissue; the meshes produced by this interlacing differ in size, shape, and in general appearance, being round, oval or oblong, and they are filled with a pellucid, or dimly granular and oily or creamy substance, which is the germ of the cancer. There are cases in which the fibrous structure compose the larger

portion of the tumor, and it may appear to be unequally distributed in wide bands or bundles, which diverge from some one point, and radiate in every direction, and frequently they can be traced into the adjacent tissue; it may be a new product, organized from the cancerous cells, or from the cellular structure of the tissue invaded. Some of the lacteals of the mammary gland have been traced from the nipple into the fibrous structure; but as the Scirrhus matures, they diminish, which indicates that they are foreign substances, or the debris of the morbid and broken-down tissue. If the cancerous material contained in the meshes of the fibrous structure is examined with a microscope, it is found to be composed of cells, which indicate a cell growth; they vary like ordinary cells, in size, shape and color; a large majority are broad, oval, or nearly round; in some specimens all may have these forms; in others, though these forms prevail, yet many cells have one or more angles or outdrawn processes; in structure and general aspect, they nearly resemble secretory gland cells.

The fluid with which a cancer is constantly bathed, is peculiar, and some of our best authors believe that it is a secretion secreted by the cancer, or, in other words, that cancer is a new excretory organ, as much so as the kidneys, or liver, contracted by similar laws of vitality, and eliminates what would be injurious to the system, as bile or urine, if not secreted from the blood.

There is great uniformity in the internal structure of cancer, the slight variation consists in the relative proportions of fibrous and cancerous material, called sometimes the germ; the slight difference in the size, shape and color of the meshes; and also, the slight difference in the cancerous material with which the interstices of the fibrous structure are filled, have caused some surgical authors to divide cancer into several kinds; MULLER divides it into four, Carcinoma simplex, Carcinoma recticulare, Carcinoma alveolare, and Carcinoma fasciculatum.

For microscopical information we are under many obligations to Prof. BYFORD, who has an excellent apparatus, and considerable experience.

A patient may have one or more cancers at the same time. I saw in the Marine Hospital, N. Y., a patient, who had several, situated in different parts of the body, and died before any one of them ulcerated.

Every tissue is not exposed to Scirrhus; the glands or secreting organs are most frequently attacked, and the mammary gland more frequently than any other. Nearly all the

organs concerned in reproduction may be the primary seat of Scirrhus, as the testicle, penis, clitoris, nymphæ, womb, and ovaries; but muscle, ligament, cartilage, and serous membranes are seldom the primary seat of the disease; if affected at all, it is generally by contiguity; for an example, a Schirrus of the mammary gland may extend to the pectoral muscle, and Scirrhus of the ribs or sternum to the pleura costalis. The dermoid tissue, the mucus membranes, the adipose tissue, and all of the outlets of the body, as the mouth, nose, vulva, and anus, may be the primary seat of the disease; also, any spongy organ or tissue that is well supplied with mucus or sebaceous follicles, as the cardiac, and pyloric orifices of the stomach, os uteri, and the lips, especially the inferior. I am at this time treating a patient for Scirrhus of the lower lip, near the right angle of the mouth.

Scirrhus seldom occurs before puberty; it increases from twenty-five to fifty, and decreases from this age to eighty. It is more frequent after fifty, than before forty. I never saw but one patient under twenty-one years of age. The Scirrhus was situated on the side of the neck, just below the ear, and was principally composed of fibrous ligamentous bands, which dipped below the cervical fascia, between the muscles. It was removed by a surgical operation, the wound healed by the first intention; the health of the patient improved for a time; but in less than two years it returned, and the patient died. The most frequent occurrence of Scirrhus is between the years of forty-five and fifty. At this period of life a great change occurs in the animal economy; the capability of reproduction declines, especially in the organs destined for propagation, as the mammary glands, womb and ovaries; at the commencement of the period called old age, nutrition is less vigorous, the secernent system is less active, which is indicated by emaciation and corrugation of the skin; the blood is impoverished, the circulation grows torpid, the pulse lessens in frequency, the strength gradually fails, and the mind fully matured looks upon the cold realities of life as they really are. Mr. Paget, an English author, states, that in one hundred and fifty undoubted cases of Scirrhus of the breast, fifteen occurred in patients under thirty-five years of age, ninety-nine from thirty-five to fifty, and forty-four from fifty to eighty.

The question has been frequently agitated, and is yet unsettled, whether Scirrhus is a local or constitutional disease, or both? The following circumstances indicate that it is of constitutional origin. It is conceded, that it is not a homo-

geneous mass, but has a regular and uniform organization, composed of a cell growth. The cells resemble healthy gland cells, especially those from which the mucous membranes are organized. The only thing which gives them distinction of character, is the nucleoli, which are larger, brighter, and better defined than the normal cell.

It is asserted by good authority, that the cancer is constantly bathed with a material, which, when not mixed with pus and foreign matter, is uniform or the same, so much so, that it can be recognized by the aid of the microscope, being composed principally of deciduous cells. The idea that it is constitutional, is farther corroborated from the fact that cancer generally returns in a short time after it has been removed, if constitutional remedial agents are not employed to prevent it. The cancerous cachexia appears at a very early period of the disease, and it occurs at a particular period of life, and in particular families.

Among the remote causes, may be mentioned every thing which undermines the constitution, or interferes with digestion, nutrition and assimilation, or is not in accordance with the laws of vitality of a particular organ or tissue, as continued irritation, blows, sprains and bruises, great mental depression and anxiety of mind, adventitious growths, and benign tumors. All of these circumstances, or any one of them, will not cause Scirrhus, unless there is a constitutional predisposition to it, so as to give direction to the remote cause.

Our prognosis ought to be very guarded in the most favorable and auspicious cases. Scirrhus is not an incurable disease, yet it is known to all, to be one of the most intractable affections now known. When it occurs in the young and corpulent, the danger is greater than when it attacks the aged and emaciated; its attack is more sudden in the former, than in the latter class of patients. The worst cases occur in the mammary gland, about the critical period of life, or at the time menses cease. Scirrhus invades the mammary gland in a large majority of cases; it occurs so frequently, that it plainly indicates that its structure is congenial to its growth.

If we wish to form a correct diagnosis, the location or organ affected must be taken into consideration, and whether the whole of the tumor can be removed by a surgical operation, or the organ implicated has an important function to perform in the animal economy.

When Scirrhus is removed by a surgical operation, the disease remains latent, frequently, but a short time before it

manifests itself locally in the same place, or in some other. By reference to my note book, twelve cases have come under my observation, and the mammary gland removed; eleven returned, and the average duration of life was less than three years. I will remark that no constitutional treatment was adopted, either before or after the operation. I was taught to believe that cancer was a local disease, and sad experience had to teach me to the contrary. Particular attention was paid to the constitutional treatment in the twelfth case; two years have elapsed since the operation, which was performed in the presence of the Medical Class, and, as yet, the health of the patient is good, and there are no symptoms of the disease returning. Scirrhus of the skin, lips, and alae of the nose occurs less seldom, and is more manageable; it is not uncommon for a patient to gain perfect freedom from the disease, when skillfully treated; but when the eye, testicle, or penus is invaded, it is sure to return, unless the greatest precaution is used after it has been removed, and the case a favorable one. A recovery seldom occurs after cancer spreads beyond the boundary of its primary location, or where it appears in more than one place, as it indicates great constitutional cancerous cachexia, or where it is accompanied or associated with some other disease, like phthisis, scrofula, or dyspepsia.

Nothing more than a palliative course of treatment ought to be adopted, in cases that have been neglected until the whole of the disease cannot be removed by a surgical operation, and the constitution undermined and greatly impaired by the disease. When the cancer extends from the mammary gland to the pectoral muscle, or to the axillary glands, the integuments hard and thickened, but little can be expected from any known remedial course of treatment. It is always an unfavorable omen, when the constitutional symptoms do not in some degree correspond with the local; to witness great constitutional disturbance, with hectic fever, and cough, without much pain in the cancer, indicates that the disease may be located in some internal organ, especially if the pulse is small, and over one hundred, it is not less discouraging to find organic disease, or functional derangement before or at the time it was first discovered; such symptoms indicate great constitutional predisposition to cancer; too much, also, to be changed by any course of treatment, however applicable and judiciously adopted.

From observation, we have come to the following conclusions:

First, That Scirrhus is a constitutional disease, forced

into being from constitutional necessity, as much so as the pustule of small pox, the pain of the toe in gout, or the enlargement of the joints caused by rheumatism.

Secondly, That the disease remains latent for a time previous to the local disease, and the constitutional predisposition may be so slight, that no local manifestation will occur, unless assisted by some remote cause, as a blow, bruise, ulcer, or some adventitious growth.

Thirdly, That when the Scirrhus is extirpated, the operation arrests the disease only for a limited time. If the cancerous cachexia is great, the time will be short, if not, it will be proportionably lengthened, and remedial agents may so modify or arrest the constitutional predisposition to the disease, that it may not appear at all.

Fourthly, That the local disease reflects back upon the constitution by the nerves, and thereby increases the constitutional tendency to local manifestation, and therefore ought to be extirpated as soon as possible.

Fifthly, That its origin can be traced to blood, which contains the elements of a special cell growth.

Sixthly, That the patient ought to be prepared by remedial agents, such as are calculated to restore the general health, and arrest the cancerous cachexia, before the Scirrhus is extirpated; and if the disease has been neglected, so that no improvement, or restoration to health can be made, the operation ought to be abandoned, and a palliative course of treatment recommended.

Scirrhus is known in its first or primary stage, by its hardness and elasticity, being greater than that of an ordinary benign tumor, and its boundaries are not well defined. In the second stage, it is characterized by a knotty or irregular surface; if situated beneath the integument it is discolored, thickened, or adheres to the tumor, and perhaps corrugated; if it is situated in the mammary gland, the nipple may be drawn in or inverted, the Scirrhus will appear heavy, and as though it was of the gland, more than in it.

The age of the patient may excite suspicion. It is seldom seen before forty, and its location may be regarded as peculiar, being prone to invade the glands. Pain is another characteristic symptom of Scirrhus cancer; although slight, at first it comes on in paroxysms, with distinct intermissions, and is lancinating; but, in the last stage, it is burning.

A benign tumor is surrounded with a capsule, its edges or boundaries well defined, has no strong attachments, is attended with no pain, unless it has been caused by pressure, or mechanical injury, and then it is not the peculiar pain of

cancer, but like that produced by other causes. The skin is loose, seldom discolored, and is disconnected with the adventitious growth, which produces no constitutional disturbance unless it is very large.

No malignant tumor can be mistaken for Scirrhus, but medullary scarcoma, or encephaloid, and it may be known by being soft in its first stage, and better supplied with blood vessels; the pain is different, and comes on earlier; it attacks all ages; is not confined to particular tissues; matures more rapidly, and sends out fungus growths, which bleed without any perceptible cause.

The growth of Scirrhus is another indication of its identity; it is generally small, and increases gradually. After ulceration, it may be known by its discharge, hard and thickened edges of the skin, general appearance of the ulcer, and constitutional cachexia.

There are two indications of treatment. The first, and very important, is to arrest the cancerous cachexia. The second is to remove the local disease, if it can be done, if not, such remedial agents ought to be employed as will allay pain, and retard the disease. The first indication may be fulfilled by a strict attention to hygienic agents, and by the skilful administration of medicines, whose modus operandi are not understood, but known to the profession as alteratives. The second, by the application of the actual or potential cauriery, or by a surgical operation. It is seldom that the cancerous cachexia can be so entirely removed, but that it may return, even from slight predisposing causes, after being previously established. Yet it may be done, and in every instance is worthy of an energetic trial. Medicines or remedies are no less important in this disease, than they are in others, such as gout, phthisis, and scrofula; no one doubts their constitutionality, and it is generally conceded that they may, under favorable circumstances, be cured, or restrained for a long time.

Judging from our present experience, no one would rely exclusively upon local treatment in such diseases. No surgeon would amputate the great toe with the expectation of curing gout, or extirpate an indurated gland, caused by a scrofulous diathesis, with the expectation of curing the disease. If such an imprudent operation was performed in either case, how long would it be before the constitutional disease would manifest itself locally again, in the same place or some other; the cause is not removed, the disease is only in a latent condition, although the patient for a time is relieved from the pain produced by the local disease. It

is highly probable that the local manifestations of the disease would reappear in a short time—from three to eighteen months—which is about the time that Scirrhus returns after it has been extirpated, when no constitutional treatment has been employed previous to the operation.

The constitutional symptoms of syphilis appear in the form of a local affection, and who would expect to eradicate the local disease by local remedial agents alone? If all local manifestations were eradicated, it would be but a short time before it would return, unless the constitutional predisposition was changed, or modified. When a local disease depends upon an unhealthy constitution, it ought to be removed, for, if the cause is not removed, the cure can not be permanent and lasting. Two remedial means, in such cases, are plainly indicated, constitutional and local; one is calculated to remove the cause, and the other the disease. We think the indiscriminate removal of Scirrhus, by a surgical operation, without any constitutional preparation, is fraught with mischief, and is an opprobrium to the profession, and a change in practice is necessary. A surgeon who will, in such cases, stain his hands with the blood of his patients, for the sake of momentary applause and eclat, ought to be visited with the execration of a wronged community; and we think the time has come when such motives, and such acts will recoil in justice upon his own reputation. Each case of Scirrhus cancer should be treated upon its own peculiar merits, and upon principles which are in harmony and in accordance with the symptoms, age, constitution, and temperament of the patient, the cause, and stage of the disease, and to every thing which pertains to the nature of the individual case.

The idea that cancer is an incurable disease, is frequently conveyed by surgical authors, and the reason which they assign, is the well known fact that the surgeon or physician knows of no infallible remedial agent or specific; they generally mention many, which in course of time have won and lost a high reputation; first lauded as an infallible cure, but afterwards have fallen into entire disrepute. This is saying that cancer is incurable, because we know of no specific, or if cured, it must be accomplished by a specific. This is incorrect reasoning, and is equally as absurd in this disease, as in all others Can gout, scrofula, syphilis, or any known malady be removed by a specific? It is now conceded, that they only exist in the imagination of a fruitful mind, and not in the materia medica, and every author who will reflect knows it very well, and that those who talk about them are

generally quacks, and unworthy of the profession. With the same kind of reasoning, it may be said that a piece of music cannot be played on a violin, because it cannot be executed on one string. The remote cause, if any exist, ought to be sought for, and, if possible, removed. If any palpable disorder is detected, it ought to modify the treatment, every organ should be carefully examined, and every departure from health noticed. If cancer is complicated with scrofula, syphilis, or with any other disease, such medicines ought to be administered as are known by experience to be efficacious in such affections. Particular attention must be paid to the organs of digestion, and to the secretions generally. The emunctories particularly, the kidneys, bowels, and skin, demand attention; they are three important scavengers of the body, through which disease may be thrown off. Every means ought to be employed, and every medium administered, which has a tendency to counteract and change the constitutional cancerous diathesis of the patient, and to arrest the morbid predisposition, which increases with the growth of the cancer. Some proportion of iodine ought to be used, if cancer occurs in a scrofulous patient, after the stomach has been prepared for its reception, by appropriate cathartics. Its effects are much more satisfactory when administered in minute doses, and not continued too long, before it is suspended for a short time, or changed for some other medicine. Lugol's mode of preparing and administering it is the best, only it ought to be given in one-third the dose, and in more water; all the fluid taken should be water impregnated with the iodine. Patients who reside in a miasmatic district of country, and who are at times affected with remittent or intermittent fever may be improved by taking Fluxham's tincture, with the bicloride of mercury, two grains to sixteen ounces, and of this half an ounce may be given, three times a day before eating. As soon as the appetite improves, and the strength increases the medicine should be suspended; tonics and stimulants ought to be used only to improve the appetite, and to accomplish some particular object, or fulfil some particular indication, such as to neutralize miasmatic influence, or to increase and improve the strength, their effects otherwise are pernicious. Cancer accompanied with preternatural sensibility of the skin, manifested by a peculiar sensation, as that produced by a current of air passing over it, or insects creeping over the surface, the cold water shower bath is worthy of trial, and seldom disappoints us.

If the disease is situated in the skin, lips, or alae of the

nose, after due attention has been paid to restore the general health, arsenic is indicated, and Fowler's solution is the best. If the patient has had syphilis, Donavan's solution may be substituted, but none of these remedies should be continued too long before they are changed or suspended. If the patient is weak, and suffering from prostration in consequence of an inability to take food, and has a gouty or rheumatic constitution, which may be known by wandering pains in the back or extremities, the compound decoction of sarsaparilla, with a little winter green to make it palatable and pleasant to the stomach, may be given. The pipsissewa is equally good in those cases, especially when the kidneys are torpid, the urine scanty, and loaded with a thick heavy deposit. The alterative narcotics can be used in most cases with great advantage. They doubtless act through the medium of the nervous system, allay excitement and irritation, (which cause functional derangement of the whole organism,) promote sleep and quietude, both of which are indispensable to health, and to a healthy performance of the organs of nutrition, assimulation, and the secernent system.

When a narcotic is indicated, the extract of conium maculatum ought to have the preference, and particular attention should be given to procure a good article; it may be given in sufficient quantity to allay pain, and may be continued for an indefinite time with impunity, (more than can be said of the most of remedial agents,) and appears in many cases to exert an actual curative effect on the disease. Opium ought never to be given; it weakens digestion, locks up all the secretions except the skin, thickens and pollutes the blood, hastens hectic fever, and causes prostration of strength by encouraging profuse night-sweats. Hyosciamus, or belladonna may be used in some rare cases, but conium is the sine qua non.

Particular attention ought to be paid to hygienic agents; but little can be accomplished with medicines unless every thing that influences the health is properly regulated; if the patient is melancholy and oppressed, weighed down by the real or imaginary troubles of life, a change in regimen, air and society should be recommended, and traveling encouraged; pleasant and cheerful company, freedom from care and anxiety, will accomplish much towards restoration.

The diet ought to be farinaceous, such as is not stimulating or heating, easy to digest, and at the same time nutricious, and capable of making good blood. Attention must be paid to the quantity as well as quality. We would not advise indiscriminately one kind of diet, but in a majority

of cases, it ought to be very scanty, just enough to support life. I knew a physician, who, although not highly educated in medical lore, was blessed with sound sense and a well-balanced mind, and who acquired an enviable reputation. His system of regimen, was nothing but boiled green corn, in the season for it, and when it could not be procured, he allowed his patient six Boston crackers a day, two at morning, noon, and night, and as the pain subsided, and health improved, the diet was increased. I have in several instances adopted a similar course of regimen, and can from observation recommend it in the most of cases; it allays arterial excitement, takes off the force of the circulation of the heart and arteries, assists the modus operandi of deobstruent medicines, and purifies the fluids. It is particularly adapted to cases where the digestion and powers of making blood are good, and the patient is predisposed to corpulency.

The local treatment is not unworthy of attention, and ought to be conducted upon rational and philosophical principles. Two things are indicated, the first is to allay pain and irritation, so that the local disease will not reflect back upon the system through the medium of the nerves, which produces functional derangement of the whole organism, and thereby increases the cancerous cachexia. The second thing is, to rob the cancer of as much blood as possible, so so as to prevent it from growing and spreading to neighboring parts. When there is arterial excitement, which seldom occurs, and the patient is young and predisposed to corpulency, leeching or local blood-letting may be resorted to or employed. Cold lotions, or pulverized ice may be used to great advantage in almost every case, and in every stage of the disease; the best way to prepare it is to put the ice in a beef's bladder. It will allay pain and irritation, acts on the muscular coats of the vessels, causing them to contract upon their contents, lessens the quantity of blood circulating in the tumor, robs it of its nourishment, and thereby arrests its growth. When pain and irritation are produced by morbid functional sensibility of the nerves of the cancer, an anodyne poultice is very good. It may be made from the watery so-solution of opium, hyosciamus, or belladona, but the most efficacious is conium. When the swelling and induration are produced by the obstruction of the circulation of the capillary vessels, some remedial agent which will stimulate the absorbents, may be used. Among these local applications may be mentioned the compound liniment of mercury, or tincture of iodyne, and some of the mercurial ointments. If, under this course of treatment and regimen, the appetite

improves, the strength of the patient increases, and the cancerous cachexia lessens, an operation should be recommended, provided the whole of the local disease can be entirely removed without the patient running extraordinary risk. A preference ought to be given to a surgical operation over escharotics. An operation is attended with less pain and danger, the wound heals quicker, with less deformity, and with more certainty.

I have used the arsenical paste, when the Scirrhus was small, and situated in the skin, and the patient would not submit to an operation. To prevent the absorption of the arsenic, it should remain on but a short time, and repeat the application if necessary; two or three hours, as a general rule, is sufficient. I have generally applied the paste three days in succession, two hours each day. As soon as the escharotic is removed, a thick, warm carrot poultice may be applied, and continued until it becomes dry; it should then be removed, and its place supplied with another. The ulcer, after the cancer sloughs out, must be treated on general principles, like an ordinary ulcer.

If an operation is to be performed, a sufficient integument must be left for flaps, so that they will meet with facility and ease, and without stretching. The operation ought never to be undertaken unless the Scirrhus is so situated that the whole can be removed; every particle should be sought for, and extirpated, and nothing that looks like the heterologous growth should be left. That there can be no mistake, when the cancer is situated in a gland, it should be removed; if in any other tissue, remove a portion lying contiguous to it, which is known to be healthy. The flaps ought to be marked out, and the incision should be made from above, downwards, that the blood may run off, and the parts be seen; and the upper part of the cancer should first be dissected for the same reason. Every precaution should be taken to prevent the loss of blood; cancerous patients cannot forego the loss of this vital fluid, like ordinary subjects. They recover very slowly from prostration produced by the loss of blood, and when it occurs, the wound is a long time healing, and the danger of a relapse is increased. The operation ought to be performed in as short a time as the nature and character of the case will admit, before syncope is produced from continued pain. After the tumor is extirpated, it ought not to be dressed until the hemorrhage is staunched, and all the clotted blood removed from the wound, so that it may heal by the first intention. The lips of the wound ought to be placed in exact coaptation,

and kept so with adhesive straps; sutures ought not to be used if they can be avoided. The dressings should be light, and as soon as reaction takes place, cold water should be applied to the wound

Before a cancer is removed, the patient ought to be prepared by living on the diet which has been mentioned, and by appropriate medicines, such as will strengthen digestion, improve the appetite, and arrest the constitutional predisposition to the disease; and after the wound has healed, the the treatment should be continued with short intermissions, until the cancerous cachexia is removed. A strict course of regimen ought to be continued during the subsequent life of the patient, and every precaution should be taken to prevent the disease from returning.

REPORT

ON

TREMBLES, OR MILK SICKNESS,

BY J. S. McCLELLAND, M. D.

This disease is found to prevail throughout a large portion of the Western and some of the Southern States. It is not confined to any particular section or quality of soil; I have traced the poison to small defined localities, on swampy oak flats, where the soil was a stiff clay loam, to rolling sugar and walnut land, where the soil was black loam and sand, and to broken bluffs, bordering on rocky streams; it occurs in fact upon all varieties of land, but seems to be found principally on oak and beach flats, along the course of swampy rivulets. It is frequently found to prevail near the prairies, but *never* in them. Another peculiarity, is its disappearance for years from a locality where it once prevailed, and then suddenly returning, to remain for one or two years, when it again vanishes.

Whatever the poisonous agent may be, or however much observers may dispute concerning its nature, they all agree that a sure prophylactic is found in cultivating the soil. Cattle kept upon pastures which have once been thoroughly broken up, never contract the disease.

Symptoms and Course.—Milk Sickness may be divided in man, into three stages:

First Stage.—Commences by weakness and trembling, especially in the lower extremities, on some slight exertion. If the exertion is long continued, the patient feels as if it were impossible for him to walk or even stand, and he sinks down exhausted; palpitation of the heart and large blood vessels, with great disponea, are often present. The patient does not complain of suffering actual pain, only a loss of power, a complete prostration of the muscles of voluntary motion. As a patient of mine once expressed it, when de-

scribing his sensations to me, "*his legs would not go along.*" While in this situation, the patient is subject to attacks of nausea, sometimes accompanied with vomiting; the fluid ejected is generally a clear, tough mucous; the appetite is variable, and the bowels disposed to be torpid. In a number of instances, during the continuance of this stage, a craving exists on first rising in the morning for cold drinks, which, if indulged in, is followed by vomiting, the fluid thrown up being of a greenish or blue cast. During this stage, the patient is often able to continue about his ordinary duties. These symptoms continue for a longer or shorter period, owing to the amount of the poison imbibed, susceptibility, and circumstances surrounding the patient. I have known all these premonitory symptoms present for weeks, and then terminate in convalescence, without the aid of any medicinal agent. While in this condition, if the patient over exerts himself, or suffers his bowels to become constipated, he immediately runs into the

Second Stage.—The onset of this stage is always rapid, and the patient is at once prostrated. He has extreme and continued nausea and vomiting, every thing is rejected as soon as swallowed; there is a tough mucous expelled, which ropes from the mouth to the vessel placed to receive it, and it requires all his strength to expel it; with this there is thrown up bile, tinged either green or yellow, but mostly green. If of a yellow color when first expelled, it soon assumes a green or blue color by exposure to the air. There is an intense craving for cold drinks, and with them the patient hopes to allay the intolerable burning sensation in the stomach, of which he constantly complains, but they are rejected almost as soon as swallowed. There is besides this, burning pain in the epigastric region, extreme tenderness on pressure; accompanying this is a continued throbbing in the umbilical region, caused by the pulsation of the abdominal aorta—this throbbing is so great, that it is evident to the eye of a distant bystander. There is obstinate constipation; the tongue is slightly coated with a white or yellowish fur, and is in most cases moist. The pulse, in a majority of cases, is nearly or quite natural at the wrist, while the heart and abdominal aorta beat with violence, sometimes it is quick and full; the extremities are cold; the surface presents a clammy feel, except over the epigastric, where it is very hot and dry; the position of the patient is usually on his back, with the knees drawn up. There is a fetor of a peculiar character exhaled, which is easier recog-

nized than described, but which has appeared to me to some-

what resemble the fetor arising from a protracted and bad case of ptyalism. This peculiar fetor combined with vomiting, and obstinate constipation, I consider a pathognomonic symptom; so surely does it diagnosticate it, that an observer once paying accurate attention to them, would at no time afterwards be at a loss to determine the nature of the disease, were he to meet with it. The secretion of urine is scanty and high colored; the discharges from the bowels, when any are obtained, are of a dark brown or black, of a tarry consistency, and exhale a most unendurable fetor. The patient moans almost constantly; is extremely restless, tossing from side to side, and utters constant complaints of being "so deathly sick;" he generally abandons all hope of recovery, and I have often heard them wish for death to close the scene and relieve them of their agony.

When not checked by appropriate treatment, the disease progresses rapidly towards the last stage. The duration of the second stage is sometimes but a few hours, but usually occupies from two to five days, and sometimes is extended to ten days or more.

Third Stage.—In this stage the patient is extremely restless, tossing from side to side, at intervals screaming as if in acute agony, or else lying in a comatose condition. The vomiting generally ceases, though the retching, with ineffectual efforts to vomit, still continues, unless a comatose condition should come on. The extremities, which from the first onset of the attack were more or less cold, now becomes positively cold; the tongue is dark, and covered with sordes; the hypocratic expression of countenance strongly marked. Usually the brain is but slightly affected, and consciousness is retained until death closes the scene, or until coma comes on, as it occasionally does, a few hours before dissolution. During the whole course of the disease, but more especially in the second and third stages, there is a desire for alcoholic drinks, even if the patient had not been in the habit of using them previous to his illness, and it is astonishing what an amount of them can be borne by such patients. The largest exhibition of these stimulants is often attended with the happiest effect, especially in the second and third stages of of the disease.

Cause.—Man usually, if not always, derives it from milk or meat; butter and cheese may produce the disease, but I have *never known* them to do so, independent of the use of diseased milk; but I have known the disease produced by milk from which the butter had been extracted by churning. I would mention in corroboration of the above, that although

butter is often made and sold from milk evidently diseased, yet in no instance have I been able to trace the disease to this source.

Much apparently contradictory evidence has been adduced in regard to the manner in which animals become affected with the poison. That the agent, whatever it may be, has great intensity, is proved from the fact of its producing death in so large a variety of animals; even the hog, which is but slightly affected by many of our most virulent poisons, is destroyed by this.

Of the various agents brought forward, those derived from the vegetable kingdom have generally been the most prominent. In an account given by Dr. McCall, (Philadelphia Journal, 1822,) of Tennessee, the plant called *Indian Hachy* was given as the cause; the *Rhus Toxicodendron* also has been set forth as the noxious agent, (J. J. McIlhenry on Milk Sickness, Springfield, Ohio, 1848). Many other plants have also been mentioned in the various journals of the day, as the primary cause. The mineral kingdom has by some observers been supposed to be the producing cause, and prominent among the minerals, supposed to be the active agent, is arsenic, (J. S. Seaton, on Milk Sickness, Louisville, Ky., 1841). Other writers have held Milk Sickness to be only a peculiar form of *Gastro Enterritis*, (N. Crockhank,) and deny the existence of any such disease as Milk Sickness. Malaria, it has also been contended is the exciting cause, (J. S. Fletcher, Northwestern Medical and Surgical Journal, 1850, p. 124). Dismissing all these agents and theories for the present, I would allude to another theory of its cause, brought forward by Professor Slack, (Western Lancet, March 1854,) in an article entitled *Ergodelatoria*. He says, "the cause is I conceive not difficult, taking into view the amount of botanical and chemical facts for sometime and recently accumulated." He supposes it to be produced by "*a small parasitic fungus*, which has the property of changing the character of each seed affected from a nutricious *bercue*, to a poisonous and very unwholesome substance;" and he mentions the *secale cornutum* as an example in point. In proof of this poisonous principle in diseased grass seed, he cites Chambers' Dictionary; Wood and Bache's Dispensatory, 1845, p. 311; the lectures of James T. W. Johnston, F. R. S. S., published by Saxton, of N. Y., p. 72. Prof. Slack states as his experience:

1. That the poisoning in cattle, which effects their milk, butter, beef, and calves, results from an *Ergot* or *fungus* production in grass seeds, which the cattle, at certain seasons, eat in grazing.

2. That this poisonous principle, effecting the cattle through their products, forms in our communities what is designated as the cause of Milk Sickness, formerly so common all around us.

3. That the *Ergot* in rye, results from much wet, just before seed or grain setting, followed by great heat or high temperature. The spurred rye is found more especially in low or wet grounds; if at all upon high ground, or upland, in very wet seasons.

Diagnosis.—The peculiar fetor, the trembling, the distressing nausea and vomiting, tenderness of the epigastrium, the obstinate constipation, and the throbbing pulsating movement in the abdomen, are all, or most of them, present in every case. If any doubt should still exist, the circumstances surrounding the patient will dispel or confirm them. In every case which I have met with, I have taken pains to make a close investigation, and I have found some of the animals, and generally, if not always, the milch cows used by the family were effected with the disease.

Prognosis.—When once prostrated by Milk Sickness, a painful and distressing death was too often the only relief afforded to the unhappy patient; but experience and observation have pointed out the means by which the dire fatality which formerly attended it can be much lessened. I would state the mortality, when properly treated, at about one in twenty.

Anatomical Character.—The two following cases were examined by myself:

One was a robust laborer, aged 50 years; autopsy eight hours after death; hypocratic expression of countenance strongly marked; icterode appearance of skin and conjunctiva; abdomen sunken; vessels of the stomach injected; mucous coat softened, and entirely removed in large patches; the stomach contained a few ounces of a dark coffee ground-looking fluid, which strongly exhaled the peculiar odor of Milk Sickness. The mucous coat of the duodenum was softened, and was easily removed by the finger nail; the liver was enlarged and softened; the gall bladder was enlarged to its utmost limits and filled with a dark, tarry looking fluid, so viscid that on severing the duct within one half inch of the gall bladder, the contents could not be pressed out through it by any force short of bursting the viscus. The other case was a female, aged 15 years, died four days from the time she was confied to her bed. She vomited up to time of her death. The examination was made twelve hours after death. The stomach was inflamed throughout; mucous

coat softened and broken down in patches; the stomach contained near a pint of greenish-black fluid; the liver was engorged with dark bile; gall bladder filled with a dark viscid bile; evidence of inflammation existed through the entire course of the small intestines; the organs of the thorax were healthy. No examination was made of the brain.

It is evident from the nature of the information obtained in the dissection of animals, that in them, as in man, the main, if not the entire force of the disease, is expended on the liver, and mucous membranes of the stomach and intestines.

The anatomical characteristics are much the same in Milk Sickness, as those found after death from Gastro Enteritis, yet a treatment the very opposite to that most beneficial in the latter, has by extensive experience been found most beneficial in the former. The reason of this is, I conceive, to be found in the nature of the exciting cause. The evidences of inflammation found after death, are no doubt caused by the irritation of the retained secretions; and if we remove these from the stomach at an early period, and give such remedial agents as will continually carry them off, no disorganization of tissue will take place; but if we allow them to remain, greater injury will result, than will be produced by the action of the most violent emetic, likely to be used by any intelligent physician.

Treatment.—My treatment is emeto-cathartic. When called to a patient, I immediately prescribe an emetic of tart. antimony gr. x, pulv. ipecac gr. xx, dissolved in six table spoonsful of warm water, of which I direct one spoonful to be given every ten minutes, until *free* evacuation of green or yellow bile takes place. In many instances, on commencing the exhibition of this emetic, the irritation of the stomach will for the time subside, and though previous to its exhibition nothing could be retained more than a few minutes, I have known the entire quantity, occupying an hour in its administration, taken before any of it (unless it was the first spoonful) would be rejected. The retention of the emetic for half an hour is quite common. The emetic should be followed by two or three large portions of calomel and jalap, given three or four hours apart, at the same time there should be a large senipism applied over the epigastric region. If the vomiting returns, which likely will be the case in from twelve to twenty-four hours from the exhibition of the first emetic, a second one should be given, but its operation need not be kept up so long as in the first; this should be again followed by two or three doses of calomel

combined with jalap or rhubarb, or given alone; at the same time a *large* blister should be applied over the epigastrium, and enemas may be used with great benefit; they should be large in quantity, and if introduced high up the rectum by the force-pump, will be of more efficacy than when given in the usual way. If the stomach retains the calomel, (and if given as directed after the exhibition of the emetic it will be retained,) repeated doses of oleum ricini will materially aid its beneficial operation. If much coldness of the extremities is present, give wine or brandy freely. Under this treatment, if energetically carried out, (and especially the emetic part, which should be repeated for several days in succession, or at least until the bowels are moved,) nineteen out of every twenty cases will recover.

Dr. Crawford, who practiced in probably one of the most infected regions in this State, (Coal Creek, Fountain County,) says in an article published in the Western Lancet, that he followed the usual course of treatment for several years, and that he lost one case in every three; while under the emetic treatment, he had in treating upwards of fifty cases, lost none. He depends upon tartarised antimony almost entirely. I can testify to the reliability of the Dr.'s statement, having practiced in the same section of country, and having several times met him in consultation, in cases of Milk Sickness. Dr. Crawford believed there was some specific influence exerted by the antimony. Another physician, (Dr. Clark,) with whom I am acquainted, has treated the disease very successfully, by giving sulphate of ferri in large doses, and thus producing free emesis. He seemed to think there was some specific influence exerted by this agent. The truth, I think, will be found to be this: any agent which will freely evacuate the stomach, and at the same time excite the liver into action, will prove beneficial; but the treatment detailed above is the one to prefer.

I would briefly sum up my views, as derived from my own experience. Milk Sickness is not produced or obtained on open or cultivated land. It is not derived from water, or any ordinary vegetable production. It is always obtained in woodlands with thick undergrowth of bushes, weeds, or grass. It is probably produced in animals, by feeding upon some species of fungus, or upon grasses infected by some parasitic production. It is always produced in man, by using the meat, or milk of infected animals—butter and cheese will not produce it; the poison, being soluble, is retained in the whey. The poison is absorbed and thrown out of the system through the secretory organs, the liver

being the most prominent. The vomiting is an effort of nature to rid the stomach of the poison, and is to be promoted until such riddance is obtained. If a person has reason to suspect he has imbibed the poison, strict attention should be paid to the state of the bowels, to keep them freely open; at the same time any exertion which would increase the force of the circulation, and thus tend to bring on the active stage of the disease, should be carefully avoided.

REPORT

ON THE

PROGRESS OF MEDICAL CHEMISTRY.

BY GEORGE M. MACLEAN, M. D.

Circumstances of a private nature, and beyond the control of your committee have prevented the preparation of as extensive a report as is desirable, upon the Progress of Medical Chemistry. The duty, however, has not been entirely neglected; and what materials could be procured, have been analyzed, and the result is as follows:

FLUID FROM A CYST IN THE THYROID BODY.

Chemist, New Series, Vol. 4, page 442.

Dr. Douglas Maclagan, reported in the Monthly Journal of Medical Sciences, for June, 1853, a case of cyst of the thyroid gland. It having yielded repeatedly to the use of iodine, but as often returned. Mr. Syme advised puncturing, and if found to contain fluid, as was expected, injection of tincture of iodine; which course was pursued with a very satisfactory result. Rather more than two ounces of fluid was removed, which was clear and totally colorless, having the appearance of pure spring water; but a small quantity being reserved, became slightly turbid in two days. Its specific gravity was 1009.47. Microscopic examination detected nothing but one or two irregular, transparent, epithelial scales, without visible nuclei or granules. Boiling caused the deposition of a very minute quantity of albumen. Five hundred grains upon evaporation, left 5.28 grains of solid residue, white, with a faint yellowish tinge, from which ether repeatedly applied, removed only 0.22 gr. of liquid fat without cholesterine. Cold water dissolved the residue, except 0.58 gr. of albumen, and 0.13 gr. of phosphate of lime. The watery solution being evaporated, left a crystalline residue, principally chloride of sodium, tinged yellow

by animal matter, with a small quantity of matter adhering to the side of the vessel, bearing some resemblance to urea, of which it may have contained a trace, but upon being subjected to examination by boiling alcohol and proper tests, it appeared to be a solid fat. The matter left undissolved by the alcohol, consisted of chloride of sodium, choloride of potassium, lime, magnesia, and sulphuric acid. Neither iodine, ammonia, nor phosphoric acid were detected.

One thousand part of the fluid appeared to be composed as follows:

Water,	989.44
Albumen,	1.16
Liquid fat,	0.22
Solid fat, with urea, (?)	0.34
Soluble animal matter,	1.48
Phosphate of lime,	0.26
Chloride of sodium,	5.80
Chloride of potassium,	0.32
Sulphuric acid, lime, magnesia, &c.,	0.64
Loss,	0.34
	1000.00

CHYLE.

Chemist, New Series, Vol. 4, page 497

Prof. Colin, of Alfort, having by means of a silver tube fixed in the thoracic duct of a cow, obtained several quarts of chyle; it was analyzed by M. J. L. Lassaigne. It was very fluid, opalescent, and of a rose tint, having stood twenty-four hours, it became a transparent jelly, with the form of the vessel—being then pressed in a fine cloth, an altrative, slightly saline, serous liquid, whose density at 59° was 1.009, flowed out. The matter left in the cloth being washed, had all the characters of fibrine.

One hundreth part of the chyle, by evaporation or a sand bath, gave water 96.40, and fixed matter 3.60. The careful analysis of this matter, showed that besides 96.40 of water, 100th of chyle was composed of fibrine 0.09, albumen 2.80, fatty matter 0.04, chloride of sodium 0.50, cabonate, phosphate and sulphate of soda 0.12, and phosphate of lime 0.05.

BLOOD.

Chemist for January, page 238.

I. M. Daubrawa being directed by the judicial authorities to examine whether a suspected knife was stained with blood, obtained the following result:

Heat caused certain brilliant dark stains to scale off, while

ordinary rust on the blade was not so affected. These scales heated to dryness, immediately turned blue, some slightly moistened red litmus paper, a change effected by ammonia proceeding from the hematosine of the blood. Hydrochloric acid dissolves rust, but did not dissolve these scales.

The blade being put into distilled water, this dissolved the bright scales, and became reddish, leaving fibrine, which was detected by the microscope. The solution gave no precipitate with ammonia; when heated it became turbid. Cholorine at first changed it to green, and then bleached it, causing the deposition of white flakes. The various liquids being evaporated to dryness, and then incinerated, the ashes treated with hydrochloric acid gave with the usual tests evidence of the presence of blood.

Ibid, 239.

II. Prof. Morin, of Rouen, proposes a method by which to detect blood on clothes, where an attempt has been made to remove it by washing in hot water, even with the addition of soap. By these means certain constituents of the blood are fixed in the fabrics, so that coloring matter of the blood cannot be obtained in the way ordinarily adopted, viz: by immersion in water. By putting the portion stained with blood for sometime in a weak solution of pure potash, a liquor is obtained, from which nitric or hydrochloric acid precipitates the protein constituent. Hydrochloric acid will dissolve what is left in the texture, and being evaporated to dryness, will leave a residue which acquires a very clear blue color by admixture of ferrocyanid of potassium, and a blood red color with sulphocyanid of potassium. These two tests jointly prove the presence of blood.

Chemical Gazette, Vol. 11, page 442.

III. Our report having reference only to the progress of Medical Chemistry during the period of one year, ending on the 1st of April, it is thought best in general not to allude to matters which, having been previously published abroad, have reached us during that time. Yet, Lehmann's remarks on the crystallizable matter of the blood having been noticed in the last year's report, we have concluded to make an exception in his case, and introduce some further observations of his upon the same subject.

The formation of the crystals appears to be materially influenced by dilution with water, but not at all by evaporation. The large quantity obtained from blood, 7 per cent. being by no means the highest proportion, show that they are not of mineral but organic origin. Their formation being com-

pleted in most cases within an hour after drawing the blood, shows that they are not the result of putrefaction.

They usually have the form of tetrahedra, but sometimes the octohedral and other regular forms are noticed. Their color varies from pale to darker shades of red—sometimes they are colorless—if preserved under water, without access of air, they at length become violet. In ether and alcohol, the lose not quite 2 per cent.; they are soluble in 597 parts of water. Alcohol effects marked changes in their properties; thus it renders them insoluble in water; they retain their form, except that their surface does not continue quite plane; and after treatment with alcohol, they swell up in acetic acid until their linear measurement is tripled or quadrupled, they return to their original size upon washing out the acid. They are readily decomposed in water, in contact with air. Freshly prepared bright brick red sediment standing for twenty-four or forty-eight hours in the air, at a moderate temperature gradually becomes cherry red, dingy bluish red, and nearly black, and then deliquesces, forming a dark brown red solution in the water absorbed; if no other constituent of the blood be present, they remain in this fluid for eight days or longer without change, except the acquisition of a violet color; oxygen is not absorbed, unless other constituents of the blood be present. In complete solution also, they undergo decomposition, commencing at the surface, then becoming dark and less transparent, the change extending throughout the liquid. The solution of the pure crystals exhibits no reaction upon vegetable colors, and is coagulable by heat, becoming opalescent at 144°, and completely coagulated at 146°, the coagulum is difficult to filter.

The microscope shows that during their chemical transformation the sharpness of their outline is diminished, their edges becoming curved, though the tetrahedral form is still perceptible; becoming darker, they reflect and refract light more feebly, till at length they are changed to a hyaline brown, gelatinous mass, with considerable tenacity, which is entirely absent from the crystals.

The watery solution is not coagulated by ether, but is rendered opalescent by an equal quantity of absolute alcohol.

The crystals become almost black by contact with concentrated nitric acid, but when heated in it, they become yellow and then form a yellow solution; this acid precipitates considerable brown flakes from the watery solution.

Neither muriatic, sulphuric, nor acetic acid, produces turpidity in the watery solution; the former two change the crystals to a blackish, sticky mass, without dissolving any;

acetic acid readily dissolves them, forming a yellowish solution, from which flakes are precipitated by ferro and ferrocyanids of potassium.

Chlorine almost immediately bleaches the solution, precipitating white flakes.

Caustic ammonia precipitates dingy white flakes, and readily dissolves the crystals; the solution has a peach blossom color; this and water being the only solvent which do not change the color; flakes are precipitated by acetic acid from the ammoniacal solution, even while it is yet alkaline.

They are insoluble in concentrated solution of caustic potash; this merely changes the light red color of the solution to a dingy yellow. Bichromate of potash gives a copious white precipitate. Basic acetate of lead produces an opalescence; nitrate of silver scarcely any. Sulphate of copper, after sometime, produces a pale greenish precipitate. Nitrate of the protoxide of mercury, produces a copious white precipitate. Bichloride of mercury in excess produces a white precipitate, which readily dissolves on the addition of a little more of the solution of the crystals, without changing the color; whereas chloride of iron, bicholoride of tin an other metallic compounds, which produce no precipitation, at least change the color to yellow.

Millon's test gives the reactions peculiar to protine compounds.

The quantity of mineral constituents is variable; the ashes sometimes contain 48 per cent. of oxide of iron and phosphates.

PULMONARY TUBERCLES, ETC.

Chemist for November, page 110.

M. J. L. Lassaigne, analysing the pulmonary matter and tubercles and lymphatic ganglions of the bronchiæ of a bull, which died of peripneumonia, found them to be composed as follows:

1. Pulmonary tubercles, of moisture 27 parts; albuminoid matter 62; subphosphate of lime 11; with traces of carbonate of lime.

2. Pulmonary matter, of moisture 65.4 parts; soluble albumen 2.6; concrete albumen 25.0; fatty matter 1.7; subphosphate of lime 5.3; and traces of carbonate of lime.

3. Lymphatic ganglions, of moisture 59.2 parts; soluble albumen 3.5; albumen and organized matter 31.0; and fatty matter 0.2; subphosphate of lime 6.1; with traces of carbonate of lime.

ALBUMINOID BODIES.

Chemist, New Series, Vol. 4, page 443.

M. M. Lebonte, and De Goumoens have discovered in albumen, fibrine, muscular fiber, casein, globulin, and vitelline, two perfectly distinct albuminoid substances, which they call oxoline and anoxoline, because the former is soluble, and the latter not so, in vinegar. A very great mistake to name a body from a single property, and one too which it holds in common with multitudes of other bodies.

Examined with a microscope, fibrine presents the appearance of fibres, with granulations disseminated between them, and on their surfaces; the fibres are anoxoline, and the granulations oxoline. They are readily detected by the microscope in muscular fibre; but not in albumen, casein, globulin, nor vittelline; though in each of these they can be readily recognized by their different chemical characters. The physical properties of each vary with its source, but the chemical relations are always uniform.

By subjecting fibrine or muscular fibre to the action of crystallizable acetic acid, the fibre is left, oxoline is dissolved, and by filtering may be separated from the anoxoline.

Anoxoline, viewed through a microscope, the adherent acetic acid having been previously neutralized by potash, present the same appearance as the fibre of normal fibrine, viz: of yellowish white, parallel fibres, with more or less marked undulations on the edges. Dilute sulphuric acid dissolves it without the aid of heat; the solution is reddish. With the assistance of heat, hydrochloric acid forms a beautiful limpid violet solution. A boiling saturated solution of tartaric acid, readily dissolves it without coloring. The mixture of nitrate of protoxide and peroxide of mercury, produces a carmine or vermillion red color. Chromate of potash, with sulphuric acid at 212° dissolves it, the solution being reddish brown.

Oxoline has the form of granulations, less diameter than the white globules of the blood, and of a peculiar aspect, which prevent it being confounded with them. It is soluble in acetic acid. Dilute sulphuric acid forms a yellow solution. Tartaric acid does not appear to dissolve it; nor does chromate of potash with sulphuric acid appear to dissolve it. It resists the action of hydrochloric acid, but this becomes yellow. A mixture of nitrate, protoxide and peroxide of mercury act not at all upon it, or only slightly redden it.

FORMIC ACID IN HUMAN SECRETIONS.

Chemical Gazette, Vol. 11, page 310.

The fluid discharged by spontaneous vomiting in six cases,

in health and different diseases, from infancy to adult age, were by Mr. Dugald Campbell filtered into a small retort, and distilled by means of a water bath, as long as the product was acid. Slight traces of formic acid being observed, care was taken to remove any aldehyde compound that might chance to be present; the residue was dissolved in a little water, the solution neutralized with phosphoric or hydrochloric acid, and distilled by a water bath. The product possessed the properties of formic acid; it was a colorless liquid, reducing with the aid of heat the salt of silver to the metalic state, and corrosive sublimate to calomel; and when neutralized with an alkali, producing a blood red color, with solutions of sesquioxide of iron. He also obtained it from fresh urine from persons of ordinary habit and supposed to be healthy.

URINE.

Chemist, New Series, Vol. 4, page 306.

I. Dr. Henry Johnson reports two cases, in which the urine was decidedly saccharine, without any of the symptoms of diabetis, except in one case, frequent calls to pass the secretion. It was in this case apparently caused by the use of large quantities of preserved fruit and similar articles. The condition of the urine is supposed to have been entirely corrected by change of diet. In the other case, the patient required no treatment on account of the state of the urine. He continued for two years without appearance of ill health, the secretion being at the end of that time still saccharine.

From his observations in another case, Dr. Johnson is led to think, that, in a feeble state of the stomach, cane sugar is changed into diabetic sugar, and if not further changed in its course to the kidneys, is there separated without apparent disease. He considers Dechambre's experiments and his own observations, as illustrating and confirming each other. And as Dechambre, according to Alvaro Reynoso's theory, supposes the presence of sugar in the urinal secretion, may have proceeded from the want of active exercise, inducing a less active respiration than was consistent with entire health.

He has obtained sugar from the blood, liver, and urine of healthy sheep; in the only instance in which he looked for it in the human liver, he failed to detect it.

Chemical Gazette, Vol. 2, page 355.

II. Dr. A. H. Hassall has detected indigo in urine, by the microscope, and by chemical tests, sometimes occurring in such quantities as to impart a blue color to the secretion. Several days exposure to the air is generally necessary for

the absorption of the oxygen essential to the development of the blue indigo, which is facilitated by free exposure to light and warmth. The color may be alternately developed and removed by admission and exclusion of air; in some cases, however, the indigo blue appeared to be found in the system, and voided as such in the urine. Where the quantity was considerable, it was accompanied by a brown matter resembling hæmatine; indeed, in some cases, the indigo appeared to be formed from a pigment itself, a supposed modification of hæmatine.

Though small quantities of colored indigo was found occasionally in urine of high specific gravity, acid and high colored, it was generally absent from such, and occurred in largest quantity in pale, straw colored urine, of low specific gravity, alkaline, and readily becoming turbid.

Its formation is a pathological phenomenon, never occurring in health, associated with a general diseased condition, rather than with local disease; though it frequently occurs in Bright's disease, and in pulmonary affections, none of the worst cases were connected with Bright's disease.

Chemist, New Series, Vol. 4, page 449. Chemical Gazette, Vol. 11, page 287.

III. Prof. Bischoff, of Giessen, from a series of experiments upon a dog, came to the following conclusion:

Urea is always formed in the organs as a result of nutrition, and never in the blood. Its production is very much influenced by the quantity and quality of food. Non-nitrogenous food, e. g., fat diminishes the transformation of the solid part of the body, consequently it diminishes the quantity of urea; yet this not always the case, inasmuch as if the meat consumed be only enough to maintain the weight of the body; fat diminishes the transformation without lessening the quantity of urea. The urea, which appears to be the first product of the change of nitrogenous matter, under some circumstances is itself changed into carbonate of ammonia, and discharged as such. Fat appears to retard this change; consequently, the quantity of urea instead of being diminished, may be actually increased by fatty food. The quantities of urea and water secreted in a given time, bear an intimate relation to each other. If the quantity of water be large, it facilitates the passage of the urea from the body, whether by simple solution or by other and more direct influence on the secretory organs; if it be small, the urea passing away less rapidly, is more subject to change. This accounts for a larger proportion of nitrogen, failing to reappear as a constituent of urea, when small quantities of

nitrogenous food are taken at long intervals, than when it is used more freely.

Annals of Science, Vol. 2, page 83.

IV. Dr John W. Draper, to determine the quantity of urea contained in urine, resorts to its destruction by nitrous acid, which resolves it into carbonic acid and nitrogen gases. He uses the nitric acid which has been, by partial decomposition, turned green in a cell of Grove's voltaic battery, adding it to the filtered urine till red fumes are disengaged.

The quantity of carbonic acid is ascertained by passing the cooled gasses through water of baryta, and weighing the carbonate of baryta which result.

That of the nitrogen is determined from its weight or volume:

1. The escaping gasses are passed through potash water, and chloride of calcium, to separate the carbonic acid and water, the whole apparatus is then weighed, and the loss of weight, thus ascertained, denotes the quantity of nitrogen which has escaped.

2. To determine the volume of nitrogen, the same process is adopted, and the escaping gas is collected and measured.

By these means, the amount of urea in a quantity of urine can be determined to the thousandth part of the whole of the fluid, in ten or twelve minutes.

ORGANIC POISONS.

Chemist, New Series, Vol. 4, page 374. Chem. Gazette, Vol. page 215.

M. Ch. Flandin, assuming that all animal matters may be divided into three classes:

1. Protin or albuminoid;
2. Coloring;
3. Fatty matter;

proceeded with his inquiry into the method of detecting organic poisons.

His investigations have led him to conclude that poisons are unassimilable, penetrate the organized tissues by absorption, and act by their presence; consequently they can be detected in various organs after death, even putrefaction not infallibly causing their destruction.

His process of detection depends on the properties of the three classes into which he divides the animal matters. Thus heat, even below 212°, coagulates albumen, and renders it insoluble in water, alcohol or acids. Baryta and lime produce the same change, and likewise modify or destroy coloring matters; and alcohol and ether readily dissolve fatty substances.

His method is to incorporate thoroughly in a mortar the matter to be examined, and 12 per cent. Its weight of anhydrous lime or baryta, heat to 212°, until perfectly dry, grind very fine, extract the soluble parts three successive times by boiling alcohol, cool and filter. The liquid passes nearly colorless, and contains only the matter sought, and fatty or resinous principles. The alcohol being evaporated, ether dissolves the fat and resin; and if the poison sought for be insoluble in ether, it is left isolated, and is separated by filtration or decantation. If it be soluble in ether, it must be dissolved by some other agent, e. g. acetic acid and precipitated by ammonia.

Having mixed 0.05 gramme of morphine, strychnine or brucine, with 100 grammes of animal matter, he proceeded as described, and obtained a ponderable quantity of the alkaloid in a state of purity. Having added opium, laudanum, and decoction of nox vomica or false angustura, with portions of animal matter; he by this process obtained in a state of purity the poisonous principles of each. He likewise obtained these principles from the stomachs, intestines, and other organs of animals, which had been killed by the least possible quantity of the crude material. Finally, of two grains of morphine, mixed with 2000 of flesh, and allowed a month to putrify, he recovered a considerable portion.

STRICHNIA.

Chemist, New Series, Vol. 4, page 396.

Mr. E. W. Davy, proposes as a test for strychnia, a very minute quantity of strong sulphuric acid, followed by a little ferrocyanid of potassium, which immediately produce with strychnia, a deep violet color, passing very slowly to a light brick red hue, which lasts some hours. The test is so delicate that an intense violet color diffused over a considerable space, was produced by less than one thousandth of a grain of strychnia, and one fifty thousandth gave a faint but characteristic shade. He considers it necessary, as far as possible, to remove any organic matter which may be with the strychnia before applying the test; though this is far less necessary than when using bichromate of potash, as alcohol, ether or sugar being present with strychnia. produces by reaction with the bichromate, a green instead of the violet color, whereas their interference with the production of the violet color, by the ferrocyanid, is very slight; ale and porter were found less injurious to the ferrocyanid than to the bicromate.

ALCOHOL.

Chemist, New Series, Vol. 4, page 421.

Wittstein has given the following method of detecting the

presence of alcohol in essential oils, being a modification of one previously offered by Bernonille.

Acetate of potash, very dry, and in powder, is added to the oil contained in a narrow test glass. The mixture, after being well agitated, is allowed to stand; if any alcohol be present, it soon dissolves the acetate, and forms a layer below the oil.

Mr. Silva prefers subjecting it to distillation by a sand bath; the alcohol passes over, carries along a small quantity of the oil, and is much more readily separated by the acetate. The suspected oil being agitated with a little of the acetate, the addition of sulphuric acid will immediately develop the odor of acetic ether.

MORPHINE.

Chemist, New Series, Vol. 4, page 325.

M. E. Becquet, being convinced that Sydenham's laudanum does not contain the whole of the morphine originally contained in the opium employed, examined the residue. He treated 40 grammes of the residue with the same wine used in the preparation of the laudanum; boiled it with distilled water, to which a small quantiy of hydrochloric acid had been added, removed the liquid by pressure after cooling, subjected the residue to the action of boiling pure distilled water, twice successively, filtering it under pressure both times, mixed the three liquids, and added a solution of equal parts neutral and tribasic acetates of lead; filtered the liquid after standing a half hour, and passed through it a current of sulphurretted hydrogen. After the lead was completely precipitated, the liquid was filtered, evaporated to one-sixth its original bulk, cooled, precipitated by a saturated solution of carbonate of potash, in slight excess and filtered; the precipitate was well washed with water, and the solution saturated with hydrochloric acid, and evaporated to four-fifths. When cooled, it was treated with carbonate of potash, filtered accidulated, and evaporated to the same extent, and, after cooling, again filtered, the same filter being used each time.

By these processes a quantity of crude morphia was obtained, which was freed from narcotine by caustic potash, hydrochloric acid, and alcohol morphia obtained equal to 1.200 the weight of the original residue.

He thinks that in the preparation of this laudanum, it would be better to use the wine in divided portions, separating the first used by pressure before adding the remainder.

All solutions of opium, according to him, leave a considerable residue of morphia, capable of separation only by the

use of boiling distilled water, accidulated with hydrochloric acid.

ALKALOIDS OF THE CINCHONAS.

Chemical Gazette, Vol. 11, page 231.

I. M. L. Pasteur has published some results of his investigations, exhibitng certain new molecular relations between the alkaloids of the cinchona barks. Quinine and cinchonine have been well known; but respecting quinidine and quinoidine, contrary views have been held. These he thinks are now accounted for.

1. *Cinchonine.* When any of the saline combinations of cinchonine are exposed to the action of heat, it is converted into cinchonicine, a new and quite distinct but isomeric base; but this base is apt to be immediately decomposed, and yield a fine red, resinous matter. If, however, a little water and sulphuric acid be added to the sulphate of cinchonine before applying heat, it remains in fusion even after the expulsion of the water at low temperature; if kept from 248° to 266° for three or four hours, it will be converted into sulphate of cinchonicine, with an almost imperceptible quantity of coloring matter.

2. *Quinicine.* In the same way quinicine is obtained from quinine, with which it is isomeric.

Both cinchonicine and quinine are nearly insoluble in water, but very soluble in absolute or ordinary alcohol. They combine readily with carbonic acid; expel ammonia from its saline combinations in the cold, and are like quinine precipitated in the form of liquid resins. They deviate the plane of polarization to the right. They are bitter and febrifuge.

3. *Quinidine and Cinchonidine.* Two very different bodies have been confounded under the name of quinidine; and hence very contradictory accounts have been given of what was supposed to be the same material. Commercial quinidine, if not purified by repeated crystalizations, is almost constantly a mixture of the two. Pasteur proposes to retain the name quinidine for one which is a hydrate, isomeric with quinine, efflorescent, deviating the plane of polarization to the right, and is colored green by the successive additions of chlorine and ammonia. He calls the other cinchonidine, which is anhydrous, isomeric with cinchonine, polarizes to the left, and is not turned green by chlorine and ammonia. This is more abundant than the former, in commercial examples.

A mixture of the two recently crystallized being exposed to

warm air, the crystals of quinidine effloresce, and retaining their shape, stand out from the clear crystals of the cinchonidine; the action of chlorine and ammonia also serves to distinguish them in the mixture.

Quinidine and cinchonidine submitted to the action of moderate heat, as quinine and cinchonine had been, yielded the same product as these last, namely, the one cinchonicine and the other quinicine. Hence it appears that the bodies quinine, quinicine, and quinidine, are isomeric; so likewise are cinchonine, cinchonicine, and cinchonidine.

From their different polarizing powers, he infers that the molecules of quinine is double, formed of two active bodies, deviating in contrary directions, and one being permanent under the influence of heat, gives its polarizing power to the quinicine; so also with cinchonine, &c. These conclusions, independently of certain contradictions, (which may be errors in translation,) are neither necessary nor certain.

4. *Quinoidine.* The salts of the alkaloids of the cinchona being converted by high temperature or the action of the sun into the resinous and coloring matters composing the greater part of the quinoidine of commerce, he thinks this last to be formed at the expense of the alkaloids, and advises always to dry the barks in the shade.

Chemical Gazette, Vol. 11, page 470.

II. The following is the summary of the facts in Langlois' paper, on the action of carbonic acid upon quinine and cinchonine:

Ammonia precipitates quinine from a solution of its sulphate; if the recent precipitate be well washed on a filter, and diffused while still moist in water, and a stream of carbonic acid be passed through the quinine, they combine. If the quantity of water be small, the carbonate is formed without being dissolved; if large, in a short time a clear solution is obtained, which although supersaturated with carbonic acid, has an alkaline reaction; upon a short exposure to air, crystals of the carbonate are deposited and continue to increase for twenty or twenty-four hours; beyond that period, although the liquid contains some salt, none is deposited. Quinine alone is yielded by spontaneous evaporation the salt being resolved into its constituents. Ammonia, potash, and soda precipitate quinine; but lime water throws down carbonate of lime.

Carbonate of quinine crystalizes in needles, which are transparent, efflorescent, soluble in alcohol, but insoluble in ether, restore the blue color to reddened litmus paper, and effervesce briskly with acids. It is decomposed at 230° F.,

without change of physical character, carbonic acid being evolved and quinine remaining. Analysis leads to the formula (C_{30}, H_{12}, NO_2, HO,) CO_2, HO, which will give for quinine the equivalent admitted by Liebig.

It is not formed by double decomposition, when a saline solution of quinine reacts upon a solution of carbonate of potash or soda, the precipitate so formed consists of quinine with a quantity of the carbonate used.

The phenomena presented with a solution of cinchonine, are completely analagous to the point of crystallization, where the analogy ceases, the carbonate being so slightly soluble that crystals are never obtained.

SQUILLS.

Chemist, New Series, Vol. 4, page 513

M. Tilloy, by careful and repeated analysis of squill, could not detect the volatile principle supposed by Vogel to exist in it. His investigations lead to the conclusion that the root contains:

1. A very acrid and poisonous substance, soluble in alcohol, but insoluble in ether.
2. A very bitter principle, yellow, and soluble in alcohol and water.
3. A fatty matter, tasteless, and soluble in ether, but when perfectly free from the former two, insoluble in alcohol.
4. Citrate of lime in small crystals, interposed in the parenchyma of the bulb.
5. A mucous matter.
6. Sugar.

NICOTINE.

Chemist, New Series, Vol. 4, page 360.

Mr. Harapath has furnished a simple process for detecting nicotine in organic solutions.

He treats the suspected liquid with a slight excess of caustic potash, adds a small quantity of chloroform, and after agitation, carefully removes the chloroform, by a pipette, and evaporates to dryness: any nicotine present will be left and easily recognised. He has been able thus to detect nicotine in infusions, to which extract of tobacco had been added in the small proportion of three-quarters of a grain to five ounces.

OIL OF HOPS.

Chemist, New Series, Vol. 4, page 546. Chem. Gazette, Vol. 11, page 272.

Dr. R. Wagner's examination of oil of hops, has led to the following results:

The oil has a light brownish yellow color, a powerful, but not intoxicating odor, and a burning, slightly bitter taste, somewhat like that of thyme. It is but slightly soluble in water, requiring more than 600 parts of that solvent. Its specific gravity is 0.908. It scarcely reddens litmus paper, but if the paper be saturated and exposed to the air, it becomes decidedly red.

It belongs to the group C_{10}, H_6, and contains no sulphur; the absence of this last element was proved:

1. By incorporating a gramme with dry carbonate of soda, and treating the mixture with melted nitrate of potash; the solution of the cooled mass gave no precipitate with chloride of barium.

2. No sulphuret of lead was formed by digesting fresh precipitated oxide of lead in an alcoholic solution of the oil.

3. The surface of a bright silver coin was not tarnished when it was digested in an aqueous solution of the oil. He supposes the sulphur sometimes detected in oil of hops, to proceed from sulphurous acid with which they have been dried.

It is not an aldehyde, for it does not reduce an alcoholic solution of silver. Iodine colors it brown, the reaction being violent if heat be applied; and a brown resin is formed. The effects of bromine are similar. No chloroform is yielded by the oil with chloride of lime; nor crystalline compound with sulphate of ammonia. The dry oil is unchanged by potassium, unless in fusion; gas is then disengaged, and the oil becomes brown and thick. By alcoholic solution of potash, it is turned brown; and from the mixture, alcohol and an oil with the odor of rosemary is distilled; subsequently, a gas, probably hydrogen, is disengaged, and a mixture of carbonate, caprytate, and pelargonate of potash remains.

It evaporates below 212° F., and begins to boil at 257°, the temperature rising gradually to 347°, then remaining stationary for sometime, and again rising to 457°. What passes over below 347°, is similar to the oil obtained by the action of potash on the native oil. It is clear and colorless. Its composition is expressed by C_{10}, H_8, or C_{20}, H_{16}. It boils between 315° and 356°, is not acted on by heated potassium; it absorbs hydrochloric acid, forming a brownish liquid not solidifying by cold.

The portion passing over between 347° and 437°, is about one-half of the whole, and has a composition expressed by C_{20}, H_{16}, $_2$HO.

It is colorless, and has the odor of hops. Upon exposure to the air, it gradually undergoes oxidation, and forms a

tenacious mass. Distilled with fused chloride of zinc, it yields a product apparently identical with the hydrocarbon. With nitric acid it yields nothing but a brittle yellow resin.

Between 437° and 457°, is distilled a yellowish oil, containing more oxygen than the byhydrate. The residue, equal to about one-sixth the original is brownish and terebinthinate.

COD LIVER OIL.

Chemist, New Series, Vol. 4, page 335.

I. Winchler has ascertained that by saponification with potash, this oil is separated into oleic and margaric acids and oxide of prophyl; and with oxide of lead into the same acids, and a new acid, propylic. No glycerin can be obtained from this oil, the radical glyceryle C_6, H_3, being represented by the new radical propyl C_6, H_7. A concentrated solution of propylamine C_6, H_9, N, distils over from the soaps of this oil, heated with hydrate of lime and chloride of ammonium. No other oil can be substituted for the cod liver, because, independently of the absence from other oils of the small quantity of iodine present in this, the conditions essential to the formation of propylamine are present in this alone.

Ibid, page 575.

II. According to Personne, phosphorus is not found in all cod liver oils; and when present, it is as a constituent of an earthy alkaline salt, and vitiates the oil.

BRAN.

Chemist for November, page 100.

M. Poggaile subjected bran from ammunition flour, bolted to 15 per cent., to an analysis, which gave the following result:

Water, - - - - - - - - -	12.65
Substances soluble in boiling water, -	30.82
Substances soluble in hydrochloric acid, diluted with twenty times its weight of water, - - - - - - -	34.37
Substances soluble in a solution of potassa containing 10 per cent. of alkali, -	12.74
Resisting celullose, - - - - -	9.42
	100.00

By repeated treatments with acids and alkalies, the cellulose was reduced to 5.73, and by concentrated solutions to 4.53, but in this case the cellulose was apparently attached.

He does not consider the small amount of cellulose obtained from bran, evidence of high nutritive power, because the less aggregated bran is dissolved by alkalies and acids, and if organization be incomplete, water disaggregates it; and the ligneous part contains coloring, extractive and other matters, which are soluble but not alimentary.

REPORT

ON THE

PATHOLOGICAL INDICATIONS OF THE URINE,

BY WM. W. MAYO, M. D.

The various parts of the human system exist separately and individually, but by their mutual agency and relations are developed all the complicated phenomena of animal life. The science of medicine has arranged these parts, and classified them into systems according to their similitudes, or the analogies observed amongst them. To investigate and explain the phenomena of Nature, in its relation to animal life, and to exhibit with clearness and perspicuity the laws which govern it, science finds it necessary to group these parts, by the appearances which they present, or by their mode of action, into classes distinguished by definite lines of separation. This classification is to a great extent arbitrary, as the individuals of each class are imperceptibly shaded off into each other, and each one depends upon the whole to sustain its own integrity, and the whole upon each one. This important principle has the same relation to all abnormal conditions. "Diseases are not simple, not the affections of single organs, but of systems," so that in some measure, classification seems to do a violence to nature; but the impulse it has given to the investigation of her laws, and aid to the progress of the science of medicine, has proved its advantages.

The division of the animal organism into its two great classes, solid and fluid, was suggested to the minds of the earliest ages, and out of these reflections various theories have arisen as to the cause of disease, its mode of action, and means of cure. It was not until after the discovery of the blood, as a circulating medium, and the impulse given to it by the heart's action, that medicine made rapid progress *as a science, and* obtained a correct knowledge of the human

system, with the uses of its various parts. It is by the close examination of their properties, conditions, and relations, that we have become acquainted with the laws which govern them; without that knowledge we must continually pass over unnoticed, numerous causes, the effects of which are made manifest to us as symptoms in disease.

Two opposite influences are known to pervade the material world, the cohesive principle by which bodies have a tendency to collect and form masses; and the repulsive, by which bodies repel each other.

The discovery of the circulation of the blood, resolved this philosophical maxim, in the application of these principles to organic life. The blood is the great means by which the animal organism is built up, and broken down, while it carries new material to be deposited by molecular cohesion, which supplies the growth, and wear and tear of the body, it at the same time and place removes the disintegrate repellent molecules. The circulation of the blood is requisite for the formation of the most delicate membrane, and the hardest bone receives nourishment from its source; the most bland fluid, as the milk from the mammary gland, and the most corosive, as the gastric acid from the stomach, have a common origin from this fountain. Every atom of the body is continually undergoing molecular death, and the disintegrated particles form new chemical combinations in the blood, which are passed off, or selected, as it were, by the different emunctories of the body—carbonic acid by the lungs, the nitrogenised combinations by the kidneys, and no doubt the intestines perform a great office in removing a large portion of the phosphates and amorphous disentegrated matter along with the refuse or undigested matter.

The question of how far these excreted products, which fall under the cognizance of the physician, "are messengers of intelligence from the seat of disease" or from organs which participate sympathetically with them, is one of much interest to the practitioner. "The history of a case often teaches us much as to the progress of disease, and the examination of the changes of structure, afford confirmation of its devastating effects upon the system." The symptoms often designate the organ affected, and an examination of the morbid excretions enables us to establish a correct diagnosis. Morbid anatomy establishes the correct species of disease; the morbid excretions often notify us of its progress.

Urine is an excretion of the highest importance, and one of undoubted interest, and in this era of chemical and microscopical investigation, in respect to normal and patho-

logical conditions, probably no part of the human system has been more closely examined than the kidney, and no fluid more thoroughly tested than the urine.

In urine there is much to interest the chemist, showing him the vital economy in the laboratory of nature; it constitutes the stream by which a host of noxious ingredients, either formed within the body, or derived from without, are washed away. The kidneys being designed for great and immediate purposes in the animal economy, a great variety of appearances are observed, both in health and disease, in the urine of the same individual, at different times of the same day. The urine, after drinking freely of any liquid, after partaking of a full meal, and after a night's rest, all present different characters, such as in density or the immediate removal of some obnoxious salt conveyed into it by the food taken, which at the same time may have rendered it alkaline, or may have become neutral from excess of water, or from other causes, acid far above the average degree. The urine, after a night's rest, presents all the essential characters of that fluid, containing the nitrogenous effete elements of the body, with little extraneous matter, and of a common density.

The kidneys are not secreting organs,* there is nothing in healthy urine but what is in the venous blood itself, formed by new chemical changes of the disintegrated structures, and separated from the blood by them. The only natural organised product in healthy urine, is a slight portion of mucus, received in its passage through its natural channels. The facility and rapidity with which various impregnating ingredients may be transmitted through the circulation, and separated by the kidneys, is in some instances astonishing, the same being found in the urine a very few minutes after being administered. Carbonate, chlorate, and nitrate of potash, are found in the urine immediately after being administered, also tannic and gallic acids.

Turpentine and myrrh sensibly impregnate it, rhubarb and other coloring matters give it a peculiar tinge. If, after the previous evacuation of the rectum by a clyster, one part of common salt to sixty of water, be thrown up into it, no second evacuation will take place, the fluid will be all absorbed, and the salt found in the urine. This experiment

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* The author probably conveys an impression by this sentence which he did not intend. The kidneys *are* secreting organs—as much so as any other organ in the body—yet it is true that the elements of the several secretions of the body exist in the blood, and the organs of secretion so called, are merely for the purpose of secerning (*separating*) these elements from the blood, &c.—Com. or Pub.

yields a more convincing proof if ferrocyanuret of potassium, be substituted for the common salt, the urine voided in fifteen minutes after, will give a copious precipitate with the persalts of iron. Various poisons are also eliminated by the kidneys, and their existence in the urine will furnish hints for treatment, and valuable evidence for the medical jurist; at times, the urine may be the only means at the disposal of the chemist. Dr Sethly has discovered all the mineral acids and the oxalic acid in urine; all the preparations of potassa magnesia, some of the salts of arsnic, lead, mercury, copper, iron, and silver; he has also detected the active principles of organic poisons, opium, belladona hemlock would often appear in the urine unchanged.

These facts show the value of diuretics in eliminating poisons. The kidneys would in some instances appear to perform the functions of the intestines, the urine containing fæces, probably from a morbid communication between the urinary organs and the alimentary canal. I have met with one instance where this change of office was continued for the space of sixty days, in a case of imperforate anus, where the child could not be relieved by an operation. The child thrived, and took its regular quantum of food, and the urine presented the appearance of being loaded with fæcal matter. After death a post mortem was refused.

The kidneys traniently fulfill the office of the skin, as is shown by the abundance of urine in cold weather, with a deficiency of perspiration, and vice versa in hot weather, and in all cases where there is an increased exrdation from the skin. This fact is clearly demonstrated in the sudden changes of our vernal months. The kidneys are very susceptible to the nervous power, witness the rapid excretion of urine under the influence of fear.

We thus find the urine a heterogeneous and very complex fluid, ever liable to change from the slightest causes, disturbed by sympathetic influences, its odor and color changed from ingesta or medicines taken, its acidity caused by food, its quantity and specific gravity depending upon the amount of fluid taken, or the various states of the atmosphere, its alkalinity upon the nervous power, the injesta or the abnormal condition of the bladder itself. The chemistry of the urine is as complex as the fluid itself, and the results obtained by it are often tedious and difficult of manipulation. There are changes which take place in the urine, which a mere inspection of the fluid will detect, and its most important pathological changes require very simple reagents for their detection, and as such as are within the reach of every practitioner.

The attentive observer, by an examination of the urine at the bedside of a patient, may obtain, at times, a great amount of information to aid him in establishing a diagnosis. The urine is essentially an inorganic compound, in health the relative proportions of its constituent salts vary but little, although its specific gravity at times may be very different, and foreign salts be more or less numerous. In disease, we sometimes find the constituent salts changed in character, from having taken new atomic relations, one portion may be greatly in excess, and another altogether wanting.

Diabetes insipidus, in some of its forms, has been so devoid of urea, that Dr. Willis has employed the term anazoturia to this morbid condition. It often occurs in children who have been indifferently tended and poorly clad; a constant thirst, emaciated extremities, with soft and protuberant bellies, are the attendant symptoms. In our paludal districts, we meet with this same condition in children who have been subjected to the debilitating influences of long continued ague.

The indications to treatment, are to allay the irritability of the kidneys, with anodyne preparations to restore the functions of the skin with mild diaphoretics, frictions, and the wearing of flannel, nutritious food, and the careful introduction of mineral tonics, combined with organic acids.

There is a form of diabetus insipidus, marked as in the above, by a great increase in the flow of urine, but the specific gravity is high, and the urea greatly increased in quantity, and the urine of a strong acid reaction, great irritability of the bladder, with frequent and urgent calls to urinate, a a melancholic cast of countenance, with frequently rapid emaciation. This condition is brought on from "living too fast," indulging in fermented liqors, with an abuse of the sexual propensity. There is an exception to this rule, for men of the most temperate habits, and even children are not free from its attacks; but the causes in these cases are easily traceable. A few drops of nitric acid added to this urine, produces an abundant supply of the crystals of the nitrate of urea in a few hours. This ureaus state accompanies some stages of acute disease, and is found not unfrequently with albuminous and saccharine urine.

A tonic treatment is indicated with local depletion, and the introduction of alkaline remedies.

The approach of spasmodic affections are often indicated by an abundant flow of urine, of low specific gravity, abounding in saline, but no extractive matter; similar appearances

often precede delirium in fevers. In most acute diseases, we have a partial or temporary suppression of urine, high colored, strongly impregnated with saline ingredients, and passed at different periods; in pneumonia, it is a true diagnostic mark as to the severity of the disease, and a crisis by an increased flow, is always of favorable import, and quickly followed by an improvement of all the symptoms; an entire suppression is always of unfavorable import.

Urine may be considered in three points of view, as bearing upon its pathological indications in special abnormal conditions. The first may consist of an unhealthy action of the chylopoetic organs, as in diabetes, with an increased action of the kidneys, the urine of a saccharine taste, and containing sugar. Or from indigestion, producing lithic acid urine; or in irritability of stomach, with alkaline urine, and a large deposit of phosphates. Secondly, we may have a discharge of urine, containing organized matter, as in granular disease of the kidney, where albumen is detected, and other constituents of the blood, whether the cause is primarily with the blood or kidneys is not for us to determine. Thirdly, the bladder, and the passages to and from it, may produce sensible changes in the urine, both in its chemical relations, properties, and constituent parts, by the addition of pus, which may originate in the kidneys, bladder or the passages to and from the bladder, or proceed from some abcess, which as opened directly into the urinary chanels, or as some assert, from internal ulceration and supperation, the pus becoming absorbed, selected from the blood by the kidneys, and passed off with the urine.

It is not always that an increase in the flow of the urine, is sympathetic of diabetes mellitus, in some rare cases, there is habitually an excessive flow of water, without any change in the relative quantity of its chemical elements, but their state of solution is so great, that the urine is neutral to test paper, and seems almost as clear as pure water, it becomes necessary to distinguish such cases as these, and those before mentioned, from the true mellitic urine. Diabetic urine is distinguished from every other, not by the inordinate flow, but by the peculiar sweet taste of the urine, and the saccharine extract left after vaporization, or by fermentation, or by fermentation with yeast. The cause of this disease has been a subject of much discussion with pathologists, and the elaborate researches made after its true seat, and the nature of the changes induced, have set up numerous theories, both vital and chemical, and have been the means of shewing the true diagnostic value of urine in its relation to disease.

The pathological changes which take place, are, at the present time, almost universally attributed to the stomach, and chylopoetic viscera. Sugar is found in these cases, in all the secretions of the body, as well as the excretions, where emetics have been given after digestion has partially taken place, the vomited matter has been subjected to the fermentation, and when induced, would be carried on briskly for twelve hours. All these facts go to prove, that the digestive functions are at fault, and from some peculiar derangement, fabricate sugar to a great extent out of the food, the greatest portion of which is separated from the blood by the kidneys, and passed off with the urine.

This morbid condition can only be detected by an examination of the urine itself. Post mortem examinations throw but little light upon the true pathology of this disease; the stomach suffers most, of the abdominal viscera in the kidneys, there is little or no change of structure; but persons laboring under this disease, invariably die of pulmonary consumption. From this fact, we are led to treat it upon the same principles as that disease, and from the use of cod liver oil in strumous affections, the profession may be led to expect much from its use in diabetes. From its dietetic properties, it administers powerfully to nutrition, and from recent reports of its use, not only nutritive properties, but by an alterative action, modifies the disease, and by its early administration often performs a cure.

Irritability of the stomach produces notable changes in the urine, rendering it alkaline, with a deposit of phosphates. This change in the urine indicates a general debility of constitution; it is met with in the overworked, bodily or mentally, or from injury of the spine. In the examination of the urine of a patient, a short time ago, this was the only change indicated by the urine, yet it was discovered, at a post mortem a short time after, that the right kidney had undergone a complete encephaloid degeneration, and presented a mass of brain like matter, weighing near five pounds. This kidney must have ceased to separate urine for a long time. The left kidney was healthy. Probably an earlier examination of the urine would have indicated the change taking place before the final destruction of the organ.

Quiet of mind and body, with exercise in the open air, cold bathing, with a general hygienic treatment, is indicated where the lesion is only that of function. Sometimes the judicious use of strichnia will remove all the symptoms in a short time. When the cause is from injury of the spine, *other* remedies will be needed. When the lithic acid deposit

occurs, with great activity of the circulation, an attack of gout may be expected; there is also danger from calculous formation, antiphlogistics are needed, and here the iodide of potassium is powerful as a defibrinator, and an alkaline diuretic.

The knowledge of the chemical composition of urine, is of great value in all obscure diseases.

The symptoms in the first stage of Bright's disease are such as not to attract the particular notice of the patient or his friends, and should he seek medical aid, there is no sign will indicate the incipient stage of the disease, unless the urine be examined. We met with a gentleman some time ago, who had been under treatment for diseased liver for several months, was anasarcous, came to Lafayette to consult Prof. Deming; he found the symptoms unusual for hepatic derangement, and his attention turned at once to the kidneys and the urine. On putting the usual tests for albumen to the urine, that fluid became almost solid, from the large proportion present. The nature of the malady had been overlooked, both by the patient and the several physicians who had at times been applied to for counsel and relief, due attention to the urine would have earlier solved the problem, and a correct diagnosis would have been formed. In dropsy dependent upon lesion of the liver, the urine is always deeply colored, contains only a trace of albumen, sometimes cannot be detected by the usual tests. In Bright's disease, the urine is colorless, and albumen is always present. The presence of albumen in urine, is always of serious import, as it generally accompanies some organic change in the kidney. Albumen is present in the urine of a patient, when the kidney is undergoing encysted transformation. In this transformation there are wanting other diagnostic marks which are always present in granular degeneration, such œdema of the extremities, with effusion into the serous cavities. These symptoms were also absent in the case of cerebral transformation before noticed; but under that examination no albumen was detected.

Albumen often occurs in the acute stages of other diseases, sometimes also with œdema of the extremities, in the sequel of scarlet fever. In typhus fever, albumen, at times, is found in the urine from the sixteenth to the twenty fifth day, its gradual increase, from its first commencement, is an unfavorable diagnostic. In cancer, pneumonia, and puerperal fever, albumen is often a concomitant symptom Albumen appears in the urine of some persons invariably after partaking of indigestable food, this always

was a continued sensation of fulness, and
ty was not more than two fluid ounces. In
ject the nitrate of silver in solution, it was
esence of two ounces produced the sensation
of the patient, "that her bladder would
of rest was very great, the bladder having
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urinate, and the necessity for emptying it
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function occurs in nervous people, and in the
nodynes quickly remove it.

is an unfavorable premonition; several such cases are given where the the patients have ultimately become victims to degenerate kidney. Whenever albumen is occasionally found in the urine of such persons, we may be led to infer this disease in its incipient stage.

The morbid admixtures of mucus, blood, and pus in urine, generally denote inflammation or irritation of the kidney, bladder or prostate. The source of these admixtures must be determined by other symptoms; if there be pain, with heaviness in the region of the loins and blood be diffused through the urine, one or both of the kidneys may be involved. We have met with one instance where these symptoms were present, and the urine was voided with great pain, which presented the appearance for several discharges of a mixture of blood and pus. This patient labors under a chronic disease of the kidney, and is subject to these attacks from any exposure. If blood passes at the end of urinating, the bladder is probably at fault. Hœmaturia is often an attendant symptom upon other diseases, typhus, and puerperæ. If we judge of the presence of blood by the color, we shall often be led into serious mistakes, as the color may depend upon other causes, and some of these may be from coloring matter in the food taken, or from medicines administered; it may present all the appearances of bloody urine, but when subjected to the power of the microscope, the blood corpuscles are wanting. The presence of purpurine in the urine may at times lead us to suspect blood in the urine; but its determination will depend upon other symptoms which are always present. Purpurine indicates a serious disturbance of the portal circulation, often functional, sometimes organic. Healthy urine always contains a slight portion of mucus, such as is received in passing over the mucous membranes. Sometimes this mucus is passed in large quantity, mixed with the urine, and after being allowed to stand sometime, settles to the bottom of the vessel, as a white, ropy, tenacious sediment, which forms, mixed with the phosphates, from one-third to one-half of the fluid. In a case we recently met with, there was a frequent desire to urinate, even when the bladder was empty; on passing the urine, there was violent pain in the viscus, strangury, and great tenesmus. There was a continued irritative fever, with all its attendant symptoms; at times the urine dribbled away, continually producing painful excoriations of the labia and upper portions of the thighs; this was a most distressing symptom. On examining the bladder, per vaginum, it was found much thickened, and painful to

the touch; there was a continued sensation of fulness, and its utmost capacity was not more than two fluid ounces. In undertaking to inject the nitrate of silver in solution, it was found that the presence of two ounces produced the sensation in the language of the patient, "that her bladder would burst. The loss of rest was very great, the bladder having to be relieved on an average every hour, and the excoriation of the parts imposed upon her strict confinement. All the symptoms began to improve after the first injection of the nitrate of silver, and the perseverance in its use enabled her to return to her house duties in a few months; she, at the present time enjoys comparatively good health. The capacity of the bladder is permanently diminished, but the disease and tenderness being removed, the calls to urinate are not over one-third as often.

There is at times great irritability of the bladder, with frequent calls to urinate, and the necessity for emptying it becomes imperative when the attention is called to it. This derangement of function occurs in nervous people, and in the old; quiet and anodynes quickly remove it.

REPORT

OF THE

PROCEEDINGS OF THE

AMERICAN MEDICAL ASSOCIATION.

The following is a short report from the transactions of the American Medical Association, read before the Indiana State Medical Society, by Wm. H. Byford, M. D.

Many papers were submitted to the Association, which will prove of great value to the profession, and go far to raise the standard of medical literature in America to as high a position as it occupies in any other country in the world; some of which deserve especial notice as well from their originality, as from the merit of the different suggestions contained in them.

Dr. Mendenhall, on the epidemics of Ohio, Indiana, and Michigan, reported at some length, and in the course of his remarks introduced a statistical view of ninety cases of intermittent fever, treated by nitric acid. The paper from which he extracted his statements, was furnished him by some one of his correspondents, whose name I did not distinctly hear. Of the ninety cases reported, sixty were permanently cured, and in fifty of these, the second paroxysm after the commencement of the administration of the remedy, did not return; and in none of the sixty, did the third make its appearance. The treatment was usually commenced by preparing the system by the use of emetics or cathartics, or both, as might be deemed best from an examination of the patient; but these preparatory measures were not always necessary. Six drops of the nitric acid of commerce, diluted by enough of water to make the draught agreeable, were given every six hours, without regard to the paroxysm, unless with it some contraindicating circumstance presented itself, as irritability, or a tendency to mucus inflammation of

the stomach or bowels. If, after further and more extensive trial by the profession, these facts should be confirmed, another valuable remedy for intermittent fever will be added to our present meagre list; commended by its cheapness as well as efficacy.

Dr. Brainard, of Chicago, Ill., who was the successful competitor on the list of prize essays, after a patient and elaborate series of experiments on the so-called remedies for the promotion of union in ununited fractures, came to the conclusion, in relation to their efficacy, that when retained in contact with the separated bones, they prevent instead of promote reunion. The substances experimented with were, of the solids, silk, cotton, wool, wood, bone, iron, ivory, and perhaps others; of the fluids, the various solutions which have been from time to time recommended for that purpose. He explains their failure by supposing that they induce too high a state of inflammation, and that suppuration instead of reparative effusion, is the result of their continued pressure. He remarks, that most likely, for he did not speak positively, to apply them, and immediately withdraw them again, repeated as frequently as necessary, might prove curative. After thus passing in review the above remedies, and their effects, he proposes a new, and as he declares, much more effective plan of treatment. It consists in puncturing, frequently and profoundly, both ends of the fractured bone. This operation, however frequently and extensively performed, should be done through but one cutaneous opening. Coordinate with this procedure, constitutional remedies and mechanical means are indispensibly necessary.

Dr. B. extends the idea of puncturing, for the relief of deformity of limbs, resulting from accident, careless or injudicious surgical treatment. The procedure in these cases he names subcutaneous amputation of the bone, which may be partial or entire. If the limb is crooked, the object is merely to straighten. He perforates the bone at the deflecting point, sufficiently often to weaken it, so that it may be brought into a straight line without entirely separating, thus leaving enough bony substance to aid in retaining the requisite length. If desirable to separate the bones, it is only necessary to increase the number of punctures, until the object is attained. The instrument for performing this operation, he did not describe, but said that a description, with specimen plates, would be included in the report, so that any who desired could have one made to order.

Dr. E. D. Fenner, of New Orleans, who has written on the subject of yellow fever, and whose opinions formed from

an extensive and enlightened experience, are entitled to and receive much respect, sums up, upon several interesting points in this disease, a series of important conclusions. He thinks we are justifiable in believing that it is not transmissable or transportable, but is often of domestic origin. It may be produced and propagated by epidemic or atmospheric influences, combined with local vice of circumstances, but is never contagious in the proper sense of the word. The rule is, that one attack affords immunity from subsequent seizures, with exceptions. A mild fever may not exhaust the susceptibility. If the disease is interrupted by remedies early, the patient is not safe. A continuous residence in the climate is necessary, even after a severe attack, to keep up acclimation, and returned citizens, after an absence of a whole year, cannot profit by any protective influence derived from that source. It is a variety of endemic malarious disease, and stands at the extreme end of the scale of severity. Although it does not pervail in all places where some other varieties of malarious diseases exist, yet it is never found except in a malarious region. In a conversation with Dr. Fenner, after the reading of his paper, he remarked, that the treatment most successful in his practice, was large doses of quinine combined with calomel. He rarely gave more than ten grains of quinine with a like portion of calomel, repeated every three hours. Three of these doses was generally enough to interrupt the progress of the disease, if given before organic had succeeded to functional derangement. But he says it is too generally the case, that so much disorganization has occurred, when the physician is called to see the patient, that the system is utterly insensible to the most powerful medication.

Other reports were read before the Association, but, although I have notes on some of them, there is nothing in them that strikes me as worthy of mention in this place.

Much discussion, and many resolutions were offered, having for their object the welfare of the profession. One resolution recommended Medical Schools to abrogate the long and generally established regulation, of substituting four years' practice, for attendance upon one course of lectures, as a requisite to candidateship for the degree of M. D. This was referred to the committee on education. Dr. Guthrie, of Memphis, offered a resolution, approving the recommendation of the Secretary of the Treasury, to modify the tariff on drugs, so as to admit crude articles duty free. It appears by the existing regulations in this respect, that twenty per cent. ad valorem is assessed upon crude and manufactured

articles indiscriminately. This Dr. G. thinks acts adversely to the interests of manufacturing chemists in this country, who have proven themselves equal in skill and superior in integrity to foreign manufacturers, and as a bribe to the latter to sophisticate the alkaloids, particularly in order to successfully compete in our markets with the former. Many others of less importance were acted upon, one of which was offered by Dr. Gross, of Kentucky, and accepted, deprecating the practice of committees of arrangements in making such extensive expenditures, by getting up costly entertainments for the Association. This he thought prevented the smaller cities from entertaining the Assoaiation, and operated injuriously upon the deliberations of that body, as well as the pockets of their liberal hosts.

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Wilstach, C. F.	Lafayette.
Wilson, James W.	Rossville.
Wilson, James B.	Salem.
Welburn, J. C.	Greencastle.
Welmem, Dr.	Jasper.

CODE OF ETHICS

OF THE

AMERICAN MEDICAL ASSOCIATION.

ADOPTED MAY, 1847.

CHAPTER I.

OF THE DUTIES OF PHYSICIANS TO THEIR PATIENTS AND OF THE OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

ART. I.—*Duties of physicians to their patients.*

§ 1. A physician should not only be ever ready to obey the calls of the sick, but his mind ought also to be imbued with the greatness of his mission, and the responsibility he habitually incurs in its discharge. Those obligations are the more deep and enduring, because there is no tribunal other than his own conscience to adjudge penalties for carelessness or neglect. Physicians should, therefore, minister to the sick with due impressions of the importance of their office; reflecting that the ease, the health, and the lives of those committed to their charge, depend on their skill, attention and fidelity. They should stud, also, in their deportment, so to unite *tenderness* with *firmness*, and *condescension* with *authority*, as to inspire the minds of their patients with gratitude, respect and confidence.

§ 2. Every case committed to the charge of a physician should be treated with attention, steadiness, and humanity. Reasonable indulgence should be granted to the mental imbecility and caprices of the sick. Secrecy and delicacy, when required by peculiar circumstances, should be strictly

observed; and the familiar and confidential intercourse to which physicians are admitted in their professional visits, should be used with discretion, and with the most scrupulous regard to fidelity and honor. The obligation of secrecy extends beyond the period of professional services;—none of the privaces of personal and domestic life, no infirmity of disposition or flaw of character observed during professional attendance, should ever be divulged by him except when he is imperatively required to do so. The force and necessity of this obligation are indeed so great, that professional men have been protected in their observance of secrecy by courts of justice.

§ 3. Frequent visits to the sick are in general requisite, since they enable the physician to arrive at a more perfect knowledge of the disease,—to meet promptly every change which may occur, and also tend to preserve the confidence of the patient. But unnecessary visits are to be avoided, as they give useless anxiety to the patient, tend to diminish the authority of the physician, and render him liable to be suspected of interested motives.

§ 4. A physician should not be forward to make gloomy prognostications, because they savor of empiricism, by magnifying the importance of his services in the treatment or cure of the disease. But he should not fail, on proper occasions, to give to the friends of the patient timely notice of danger when it really occurs; and even to the patient himself, if absolutely necessary. This office, however, is so peculiarly alarming when executed by him, that it ought to be declined whenever it can be assigned to any other person of sufficient judgment and delicacy. For, the physician should be the minister of hope and comfort to the sick; that, by such cordials to the drooping spirit, he may smooth the bed of death, revive expiring life, and counteracting the depressing influence of those maladies which often histurb the tranquility of the most resigned in their last moments. The life of a sick person can be shortened not only by the acts, but also by the words or the manner of a physician. It is, there-

fore, a sacred duty to guard himself carefully in this respect, and to avoid all things which have a tendency to discourage the patient and to depress his spirits.

§ 5. A physician ought not to abandon a patient because the case is deemed incurable; for his attendance may continue to be highly useful to the patient, and comforting to the relatives around him, even in the last period of a fatal malady, by alleviating pain and other symptoms, and by soothing mental anguish. To decline attendance under such circumstances, would be sacrificing to fanciful delicacy and mistaken liberality, that moral duty, which is independent of, and far superior to, all pecuniary consideration.

§ 6. Consultations should be promoted in difficult or protracted cases, as they give rise to confidence, energy, and more enlarged views in practice.

§ 7. The opportunity which a physican not unfrequently enjoys of promoting and strengthening the good resolutions of his patients, suffering under the consequences of vicious conduct, ought never to be neglected. His counsels, or remonstrances, will give satisfaction, not offence, if they be proffered with politeness, and evince a genuine love of virtue, accompanied by a sincere interest in the welfare of the person to whom they are addressed.

ART. II.—*Obligations of patients to their physicians.*

§ 1. The members of the medical profession, upon whom is enjoined the performance of so many important and arduous duties toward the community, and who are required to make so many sacrifices of comfort, ease, and health, for the welfare of those who avail themselves of their services, certainly have a right to expect and require, that their patients should entertain a just sense of the duties which they owe to the medical attendants.

§ 2. The first duty of a patient is, to select as his medical adviser one who has received a regular professional educa-

tion. In no trade or occupation, do mankind rely on the skill of an untaught artist; and in medicine, confessedly the most difficult and intricate of the sciences, the world ought not to suppose that knowledge is intuitive.

§ 3. Patients should prefer a physician whose habits of life are regular, and who is not devoted to company, pleasure, or any pursuit incompatible with his professional obligations. A patient should, also, confide the care of himself and family, as much as possible to one physician, for a medical man who has become acquainted with the peculiairties of constitution, habits, and predispositions, of those he attends, is more likely to be successful in his treatment, than one who does not possess that knowledge.

A patient who has thus selected his physician, should always apply for advice in what may appear to him trival cases, for the most fatal results often supervene on the slightest accidents. It is of still more importance that he should apply for assistance in the forming stages of violent diseases; it is to a neglect of this precept that medicine owes much of the uncertainty and imperfection with which it has been reproached.

§ 4. Patients should faithfully and unreservedly communicate to their physician the supposed cause of their disease. This is the more important, as many diseases of a mental origin simulate those depending on external causes, and yet are only to be cured by ministering to the mind diseased. A patient should never be afraid of thus making his physician his friend and adviser; he should always bear in mind that a medical man is under the strongest obligations of secrecy. Even the female sex should never allow feelings of shame or delicacy to prevent their disclosing the seat, symptoms, and causes of complaints peculiar to them. However commendable a modest reserve may be in the common occurrences of life, its strict observance in medicine is often attended with the most serious consequences, and a patient may sink under a painful and loathsome disease, which

might have been readily prevented had timely intimation been given to the physician.

§ 5. A patient should never weary his physician with a tedious detail of events or matters not appertaining to his disease. Even as relates to his actual symptoms, he will convey much more real information by giving clear answers to interrogatories, than by the most minute account of his own framing. Neither should he obtrude upon his physician the details of his business nor the history of his family concerns.

§ 6. The obedience of a patient to the prescriptions of his physician should be prompt and implicit. He should never permit his own crude opinions as to their fitness, to influence his attention to them. A failure in one particular may render an otherwise judicious treatment dangerous, and even fatal. This remark is equally applicable to diet, drink, and exercise. As patients become convalescent, they are very apt to suppose that the rules prescribed for them may be disregarded, and the consequence, but too often, is a relapse. Patients should never allow themselves to be persuaded to take any medicine whatever, that may be recommended to them by the self-constituted doctors and doctresses, who are so frequently met with, and who pretend to possess infallible remedies for the cure of every disease. However simple some of their prescriptions may appear to be, it often happens that they are productive of much mischief, and in all cases are they injurious, by contravening the plan of treatment adopted by the physician.

§ 7. A patient should, if possible, avoid even the *friendly visits of a physician* who is not attending him—and when he does receive them, he should never converse on the subject of his disease, as an observation may be made, without any intention of interference, which may destroy his confidence in the course he is pursuing, and induce him to neglect the directions prescribed to him. A patient should never send for a consulting physician without the express consent

of his own medical attendant. It is of great importance that physicians should act in concert; for, although their modes of treatment may be attended with equal success when employed singly, yet conjointly the are very likely to be productive of disastrous results.

§ 8. When a patient wishes to dimiss his physician, justice and common courtesy require that he should declare his reasons for so doing.

§ 9. Patients should always, when practicable, send for their physician in the morning, before his usual hour of going out; for, by being early aware of the visits he has to pay during the day, the physician is able to apportion his time in such a manner as to prevent an interference of engagements. Patients should also avoid calling on their medical adviser unnecessarily during the hours devoted to meals or sleep. They should always be in readiness to receive the visits of their physician, as the detention of a few minutes is often of serious inconvenience to him.

§ 10. A patient should after his recovery, entertain a just and enduring sense of the value of the services rendered him by his physician; for these are of such a character, that no mere pecuniary acknowledgment can repay or cancel them.

CHAPTER II.

OF THE DUTIES OF PHYSICIANS TO EACH OTHER, AND TO THE PROFESSION AT LARGE.

ART. I.—*Duties for the support of professional character.*

§ 1. Every individual, on entering the profession, as he be-

comes thereby entitled to all its privileges and immunities, incurs an obligation to exert his best abilities to maintain its dignity and honor, to exalt its standing, and to extend the bounds of its usefulness. He should, therefore, observe strictly, such laws as are instituted for the government of its members;—should avoid all contumelious and sarcastic remarks relative to the faculty, as a body; and while, by unwearied diligence, he resorts to every honorable means of enriching the science, he should entertain a due respect for his seniors, who have, by their labors, brought it to the elevated condition in which he finds it.

§ 2 There is no profession, from the members of which greater purity of character, and a higher standard of moral excellence are required, than the medical; and to attain such eminence, is a duty every physician owes alike to his profession, and to his patients. It is due to the latter, as without it he cannot command their respect and confidence, and to both, because no scientific attainments can compensate for the want of correct moral principles. It is also incumbent upon the faculty to be temperate in all things, for the practice of physic requires the unremitting exercise of a clear and vigorous understanding; and, on emergencies, for which no professional man should be unprepared, a steady hand, an acute eye, and an unclouded head may be essential to the well-being, and even to the life, of a fellow creature.

§ 3. It is derogatory to the dignity of the profession, to resort to public advertisements or private cards or handbills, inviting the attention of individuals affected with particular diseases—publicly offering advice and medicine to the poor gratis, or promising radical cures; or to publish cases and operations in the daily prints, or suffer such publications to be made;—to invite laymen to be present at operations,—to boast of cures and remedies,—to adduce certificates of skill and success, or to perform any other similar acts. These are the ordinary practices of empirics, and are highly reprehensible in a regular physician.

§ 4. Equally derogatory to professional character is it, for a physician to hold a patent for any surgical instrument, or medicine; or to dispense a secret *nostrum*, whether it be the composition or property of himself, or of others. For, if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality; and if mystery alone give it value and importance, such craft implies either disgraceful ignorance, or fraudulent avarice. It is also reprehensible for physicians to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them.

ART. II.—*Professional services of physicians to each other.*

§ 1. All practioners of medicine, their wives, and their children while under the parental care, are entitled to the gratuitous services of any one or more of the faculty residing near them, whose assistance may be desired. A physician afflicted with disease is usually an incompetent judge of his own case: and the natural anxiety and solicitude which he experiences at the sickness of a wife, a child, or any one who, by the ties of consanguinity, is rendered peculiarly dear to him, tend to obscure his judgment, and produce timidity and irresolution in his practice. Under such circumstances, medical men are peculiarly dependent upon each other, and kind offices and professional aid should always be cheerfully and gratuitously afforded. Visits ought not, however, to be obtruded officiously; as such unasked civility may give rise to embarrassment, or to interfere with that choice on which confidence depends. But if a distant member of the faculty, whose circumstances are affluent, request attendance, and an honorarium be offered, it should not be declined; for no pecuniary obligation ought to be imposed, which the party receiving it would wish to incur.

ART. II.—*Of the duties of physicians as respects vicarious offices.*

§ 1. The affairs of life, the pursuit of health, and the va-

rious accidents and contingencies to which a medical man is peculiarly exposed, sometimes require him temporarily to withdraw from his duties to his patients, and to request some of his professional brethren to officiate for him. Compliance with this request is an act of courtesy, which should always be performed with the utmost consideration for the interest and character of the family physician, and when exercised for a short period, all the pecuniary obligations for such service should be awarded to him. But if a member of the profession neglect his business in quest of pleasure and amusement, he cannot be considered as entitled to the advantages of the frequent and long-continued exercise of this fraternal courtesy, without awarding to the physician who officiates the fees arising from the discharge of his professional duties.

In obstetrical and important surgical cases, which give rise to unusual fatigue, anxiety and responsibility, it is just that the fees accruing therefrom should be awarded to the physician who officiates.

ART. IV.—*Of the duties of physicians in regard to consultations.*

§ 1. A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of an individual to the exercise and honors of his profession. Nevertheless, as in consultations the good of the patient is the sole object in view, and this is often dependent on personal confidence, no intelligent regular practitioner, who has a license to practice, from some medical board of known and acknowledged respectability, recognized by this association, and who is in good moral and professional standing in the place in which he resides, should be fastidiously excluded from fellowship, or his aid refused in consultation, when it is requested by the patient. But no one can be considered as a regular practitioner, or a fit associate in consultation,

whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology, and organic chemistry.

§ 2. In consultations, no rivalship or jealousy should be indulged; candor, probity, and all due respect should be exercised towards the physician having charge of the case.

§ 3. In consultations, the attending physician should be the first to propose the necessary questions to the sick; after which the consulting physician should have the opportunity to make such farther inquiries of the true character of the case. Both physicians should then retire to a private place for deliberation; and the one first in attendance should communicate the directions agreed upon to the patient or his friends, as well as any opinions which it may it may be thought proper to express. But no statement or discussion of it should take place before the patient or his friends, except in the presence of all the faculty attending, and by their common consent; and no *opinions* or *prognostications* should be delivered, which are not the result of previous deliberation and concurrence.

§ 4. In consultations, the physician in attendance should deliver his opinion first; and when there are several consulting, they should deliver their opinions in the order in which they have been called in. No decision, however should restrain the attending physician from making such variations in the mode of treatment, as any subsequent unexpected change in the character of the case may demand. But such variation, and the reasons for it ought to be carefully detailed at the next meeting in consultation. The same privilege belongs also to the consulting physician if he is sent for in an emergency, when the regular attendant is out of the way, and similar explanations must be made by him at the next consultation.

§ 5. The utmost punctuality should be observed in the visits

of physicians when they are to hold consultation together, and this is generally practicable, for society has been considerate enough to allow the plea of a professional engagement to take precedence of all others, and to be an ample reason for the relinquishment of any present occupation. But, as professional engagements may sometimes interfere, and delay one of the parties, the physician who first arrives should wait for his associate a reasonable period after which the consultation should be considered as postponed to a new appointment. If it be the attending physician who is present, he will of course see the patient and prescribe; but if it be the consulting one, he should retire, except in case of emergency, or when he has been called from a considerable distance, in which latter case he may examine the patient, and give his opinion in *writing* and *under seal*, to be delivered to his associate.

§ 6. In consultations theoretical discussions should be avoided, as occasioning perplexity and loss of time. For there may be much diverstiy of opinion concerning speculative points, with perfect agreement in those modes of practice which are founded, not on hypothesis, but on experience and observation.

§7. All discussions in consultation should be held as secret and confidential. Neither by words nor manner should any of the parties to a consultation assert or insinuate, that any part of the treatment pursued did not receive his assent. The responsibility must be equally divided between the medical attendants,—they must equally share the credit of success as well as the blame of failure.

§ 8. Should any irreconcilable diversity of opinion occur when several physicians are called upon to consult together, the opinion of the majority should be considered as decisive; but if the numbers be equal on each side, then the decision should rest with the attending physician. It may, moreover, sometimes happen, that two physicians cannot agree in their views of the nature of a case, and the treatment to be pur-

sued. This is a circumstance much to be deplored, and should always be avoided, if possible, by mutual concessions, as far as they can be justified by a conscientious regard for the dictates of judgment. But, in the event of its occurrence, a third physician should, if practicable, be called to act as umpire; and, if circumstances prevent the adoption of this course, it must be left to the patient to select the physician in whom he is most willing to confide. But, as every physician relies upon the rectitude of his judgment, he should, when left in the minority, politely and consistently retire from any further deliberation in the consultation, or participation in the management of the case.

§ 9. As circumstances sometimes occur to render a *special consultation* desirable, when the continued attendance of two physicians might be objectionable to the patient, the member of the faculty whose assistance is required in such cases, should sedulously guard against all future unsolicited attendance. As such consultations require an extraordinary portion both of time and attention, at least a double honorarium may be reasonably expected.

§ 10. A physician who is called upon to consult, should observe the most honorable and scrupulous regard for the character and standing of the practitioner in attendance: the practice of the latter, if necessary, should be justified as far as it can be, consistently with a conscientious regard for truth, and no hint or insinuation should be thrown out which could impair the confidence reposed in him, or affect his reputation. The consulting physician should also carefully refrain from any of those extraordinary attentions or assiduities, which are too often practiced by the dishonest for the base purpose of gaining applause, or ingratiating themselves into the favor of families and individuals.

ART. V.—*Duties of physicians in cases of interference.*

§ 1. Medicine is a liberal profession, and those admitted into its ranks should found their expectations of practice

upon the extent of their qualifications, not on intrigue or artifice.

§ 2. A physician, in his intercourse with a patient under the care of another practitioner, should observe the strictest caution and reserve. No meddling inquiries should be made —no disingenious hints given relative to the nature and treatment of his disorder; nor any course of conduct pursued that may directly or indirectly tend to diminish the trust reposed in the physician employed.

§ 3. The same circumspection and reserve should be observed when, from motives of business or friendship, a physician is prompted to visit an individual who is under the direction of another practitioner. Indeed, such visits should be avoided, except under peculiar circumstances; and when they are made, no particular inquiries should be instituted relative to the nature of the disease, or the remedies employed, but the topics of conversation should be as foreign to the case as circumstances will admit.

§ 4. A physician ought not to take charge of, or prescribe for a patient who has recently been under the care of another member of the faculty in the same illness, except in cases of sudden emergency, or in consultation with the physician previously in attendance, or when the latter has relinquished the case, or been regularly notified that his services are no longer desired. Under such circumstances, no unjust and illiberal insinuations should be thrown out in relation to the conduct or practice previously pursued, which should be justified as far as candor, and regard for truth and probity will permit; for it often happens, that patients become dissatisfied when they do not experience immediate relief, and, as many diseases are naturally protracted, the want of success, in the first stage of treatment, affords no evidence of a lack of professional knowledge and skill.

§ 5. When a physician is called to an urgent case, because the family attendant is not at hand, he ought, unless his as-

sistance in consultation be desired, to resign the care of the patient to the latter immediately on his arrival.

§ 6. It often happens, in cases of sudden illness, or of recent accidents and injuries, owing to the alarm and anxiety friends, that a number of physicians are simultaneously sent for. Under these circumstances, courtesy should assign the patient to the first who arrives, who should select from those present, any additional assistance that he may deem necessary. In all such cases, however, the practitioner who officiates, should request the family physician, if there be one, to be called, and, unless his further attendance be requested, should resign the case to the latter on his arrival.

§ 7. When a physician is called to the patient of another practitioner, in consequence of the sickness or absence of the latter, he ought, on return or recovery of the regular attendant, and with the consent of the patient, to surrender the case.

§ 8. A physician, when visiting a sick person in the country, may be desired to see a neighboring patient who is under the regular direction of another physician, in consequence of some sudden change or aggravation of symptoms. The conduct to be pursued on such an occasion is to give advice adapted to present circumstances; to interfere no farther than is absolutely necessary with the general plan of treatment; to assume no future direction, unless it be expressly desired; and, in this last case, to request an immediate consultation with the practitioner previously employd.

§ 9. A wealthy physician should not give advice *gratis* to the affluent; because his doing so is an injury to his professional brethren. The office of a physician can never be supported as an exclusively beneficent one; and it is defrauding, in some degree, the common funds for its support, when fees are dispensed with which might justly be claimed.

§ 10. When a physician who has been engaged to attend a case of midwifery, is absent, and an other is sent for, if deliv-

ery is accomplished during the attendance of the latter, he is entitled to the fee, but should resign the patient to the practitioner first engaged.

ART. VI.—*Of differences between physicians.*

§ 1. Diversity of opinion, and opposition of interest, may, in the medical, as in other professions, sometimes occasion controversy and even contention. Whenever such cases unfortunately occur, and cannot be immediately terminated, they should be referred to the arbitration of a sufficient number of physicians, or a *court-medical.*

§ 2. As peculiar reserve must be maintained by physicians towards the public, in regard to professional matters, and as there exist numerous points in medical ethics and etiquette through which the feelings of medical men may be painfully assailed in their intercourse with each other, and which cannot be understood or appreciated by general society, neither the subject matter of such differences nor the adjudication of the arbitrators should be made public, as publicity in a case of this nature may be personally injurious to the individuals concerned, and can hardly fail to bring discredit on the faculty.

ART. VII.—*Of pecuniary acknowledgements.*

Some general rules should be adopted by the faculty, in every town or district, relative to *pecuniary acknowledgements* from their patients, and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit.

CHAPTER III.

OF THE DUTIES OF THE PROFESSION TO THE PUBLIC, AND OF THE OBLIGATIONS OF THE PUBLIC TO THE PROFESSION.

ART. I.—*Duties of the profession to the public.*

§ 1. As good citizens, it is the duty of physicians to be ever vigilant for the welfare of the community, and to bear their part in sustaining its institutions and burdens: they should also be ever ready to give counsel to the public in relation to matters especially appertaining totheir profession, as on subjects of medical police, public hygiene, and legal medicine. It is their province to englighten the public in regard to quarantine regulations,—the location, arrangement, and dietaries of hospitals, asylums, schools, prisons, and similar institutions,—in relation to the medical police of towns, as drainage, ventilation, &c.,—and in regard to measures for the prevention of epidemic and contagious diseases; and when pestilence prevails, it is their duty to face the danger, and to continue their labors for the alleviation of the suffering, even at the jeopardy of their own lives.

§ 2. Medical men should also be always ready, when called on by the legally constituted authorities, to enlighten coroners' inquests, and courts of justice, on subjects strictly medical,—such as involve questions relating to sanity, legitimacy, murder by poisons or other violent means, and in regard to the various other subjects embraced in the science of Medical Jurisprudence. But in these cases, and especially where they are required to make a post-mortem examination, it is just, in consequence of the time, labor, and skill required, and the responsibility and risk they incur, that the public should award them a proper honorarium.

§ 3. There is no profession, by the members of which eleemosynary services are more liberally dispensed than the medical, but justice requires that some limits should be placed to the performance of such good offices. Poverty,

professional brotherhood, and certain of the public duties referred to in the first section of this chapter, should always be recognized as presenting valid claims for gratuitous services; but neither institutions endowed by the public or by rich individuals, societies for mutual benefit, for the insurance of lives or for analogous purposes, nor any profession or occupation, can be admitted to possess such privilege. Nor can it be justly expected of physicians to furnish certificates of inability to serve on juries, to perform militia duty, or to testify to the state of health of persons wishing to insure their lives, obtain pensions, or the like, without a pecuniary acknowledgment. But to individuals in indigent circumstances, such professional services should always be cheerfully and freely accorded.

§ 4 It is the duty of physicians, who are frequent witnesses of the enormities committed by quackery, and the injury to health and even destruction of life caused by the use of quack medicines, to enlighten the public on these subjects, to expose the injuries sustained by the unwary from the devices and pretensions of artful empirics and impostors. Physicians ought to use all the influence which they may possess, as professors in Colleges of Pharmacy, and by exercising their option in regard to the shops to which their prescriptions shall be sent, to discourage druggists and apothecaries from vending quack or secret medicines, or from being in any way engaged in their manufacture and sale.

ART. II.—*Obligations of the public to physicians.*

§ 1. The benefits accruing to the public, directly and indirectly, from the active and unwearied beneficence of the profession, are so numerous and important, that physicians are justly entitled to the utmost consideration and respect from the community. The public ought likewise to entertain a just appreciation of medical qualifications;—to make a proper discrimination between true science and the assumptions of ignorance and empiricism,—to afford every encouragement and facility for the acquisition of medical education,

and no longer to allow the statute books to exhibit the anomaly of exacting knowledge from physicians, under liability to heavy penalties, and of making them obnoxious to punishment for resorting to the only means of obtaining it.